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The Industry Newspaper for Software Development Managers

SPECIAL REPORT

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Software

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Sun Challenges Silverlight, Flash With JavaFX for RIAs



JavaFX Script is for content creators, says Sun EVP of software Rich Green.

BY ALEX HANDY

Sun Microsystems must envy Adobe Systems and its Flash technology. When Java was introduced in the mid-1990s, it was hailed as a method by which rich Internet applications (RIAs) could be developed, thanks to the cross-platform compatibility of the language.

But 12 years later, Sun and Java have remained firmly at the back of the pack when it comes to RIA technologies, being passed up in favor of AJAX, Flash and even C++. But at

JavaOne in May, Sun made an announcement that it hopes will change everything.

In a two-hour keynote, Sun executive vice president of software Rich Green showed off a new multi-faceted scripting language, dubbed JavaFX Script. Although Sun CEO Jonathan Schwartz joked in the following press conference that the name of this new language was less than desirable, he and Green were adamant that this technology will be an integral part of Sun's future.

**SUN SENDS
UP FLAIR
AS AJAX
ALTERNATIVE**
•
**JAVA SOURCE
CODE FINALLY
OPEN SOURCE**
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Green said in the keynote that JavaFX Script was designed for content creators, not for software developers. The language will run automatically on any Java virtual machine, Green noted, regardless of version. That means that developers can also use the scripting language to build applications for mobile devices, on a platform called JavaFX Mobile. That portable form of the language is based upon the intellectual assets purchased in April from SavaJe Technologies.

"The world is just ballooning out, in terms of the content peo-

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VMware Adds Ability To Replay Crashes

BY ALEX HANDY

As if virtualization hadn't already made QA engineers' lives easier, VMware Workstation 6 adds in replay capabilities that allow developers to rewind and step through crashes moment by moment.

Released in the second week of May, the new version of VMware's desktop product adds support for dual monitors and speed enhancements. But the most significant change to this version is the ability to treat a virtual machine like a VCR: Users can record, play back, rewind and pause the entire virtualized system.

James Phillips, senior director of software life-cycle solutions at VMware, an EMC subsidiary, said that the new record/replay capabilities should help developers glean large amounts of information about their programs by replaying crashes, slowdowns and trouble spots during execution.

"This allows you to begin, at any point in time, recording the activity occurring within a virtual machine. We guarantee the replay will be precisely as it was in the original record time. Developers can go back in time, and run back up to a state where they're finding a bug or an anomaly. With this technology, you can rewind and run back up to see the states, the I/O and

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The Future of Software: Services, Collaboration

BY ALEX HANDY

The future of software may have more in common with flipping burgers than with flipping houses, according to speakers at a Carnegie Mellon University West-sponsored conference titled "The New Software Industry: Forces at Play, Business in Motion," which took place in late April.

Most of the speakers, addressing four dozen attendees, agreed that the services business is where software is headed. But while services are considered to be the future, it remains to be seen exactly what "service" means in a broader context, and frequent discussions took place

around what the definition of a service is.

Certainly, services can be defined to include the popular Web services and Web 2.0 API-type of offerings now available from the likes of Google and Digg. But Paul P. Maglio, a services researcher at IBM's Almaden Research Center, sees services as a much larger domain.

"We can't just write software anymore," said Maglio. "We have to worry about how the systems that provide services to people actually work." That, he said, means offering customer service and on-demand development for

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Microsoft's BizTalk Services
Gets Connected

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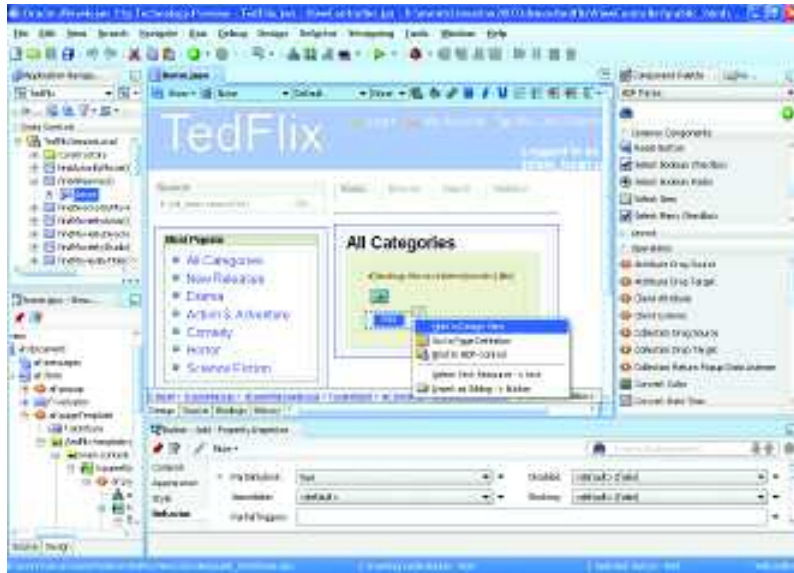
Releases Spring SDK; previews next app server, ADF, JDeveloper releases

BY P.J. CONNOLLY

SAN FRANCISCO — Oracle was focused on the future at JavaOne, previewing the next releases of Oracle Application Server, JDeveloper and the Oracle Application Development Framework (ADF), and releasing a development kit for the Spring framework. The company also announced that it has donated at least 80 AJAX-enabled JavaServer Faces (JSF) components to the Apache Foundation's new Rich Client Framework subproject.

Oracle's Spring SDK is based on Spring Framework 2.0, and includes a JDeveloper extension with full editor support for Spring 1.x and 2.0 definitions, as well as auto-complete, code insight and XML validation features.

The Spring SDK also includes Oracle Developer Depot, a Spring-based productivity tool, integration with Oracle Transaction Manager, and



Oracle is previewing an updated visual editor in JDeveloper 11g that allows one-click binding to Oracle Application Development Framework controls.

the usual assortment of sample applications and tutorials. The company intends to donate unspecified components of its SDK to the Spring community, as it did previously with the TopLink persistence tools.

The next release of Oracle Application Server is intended to ease the deployment of rich Internet applications with Java EE 5 compatibility and support for EJB 3 as well as the JAX-WS Java API for XML Web ser-

vices, the Java Persistence API, JSF 1.2 and the Web Services Policy framework (WS-Policy).

In addition, the application server preview includes an enhanced version of TopLink that adds the ability to expose relational data as a Web service, built-in kernel support for Java Transaction Service, and integration of lightweight component containers, such as Spring.

The updates to Oracle ADF and JDeveloper are intended to provide developers with the tools necessary to build Java EE 5-based SOAs. These begin with a new JavaScript editor and debugger, and support for the complete line of Java EE 5 APIs and standards. Also in the

ADF update is a new kit that allows the rendering of data visualization components, or charts, in Flash as well as in PNG and SVG formats.

Oracle claims that the ADF and JDeveloper previews offer developers enhanced Web services support, including testing of Web services, an improved WSDL editor for Web services development, and the ability to generate Web services that follow JAX-WS conventions either from existing code or from a WSDL document.

Oracle also revealed that it had open-sourced its ADF Faces Rich Client technology, by donating the collection of more than 80 AJAX-enabled JSF components to the community. The technology will be the core of a new subproject of the Apache MyFaces project, to be known as the Rich Client Framework. MyFaces is an open source implementation of JSF. ■

Business Comes Front and Center at Software 2007

Bigwigs look at the business of software from a variety of perspectives

BY ALAN ZEICHICK

SANTA CLARA — While the T-shirt and jeans throng descended on San Francisco to attend classes and talk to software vendors at Sun Microsystems' JavaOne conference the week of May 7, a smaller blue-blazer-and-khakis crowd came south instead to attend Software 2007, an event for software entrepreneurs, venture capitalists and equity investors that focused on the business of software.

A series of seven keynote speeches, from EMC, Hewlett-Packard, Microsoft, Motorola, Salesforce.com, SAP and Tata Consultancy Services, looked at the software business from a variety of different perspectives;

there also were a number of panel discussions and breakouts for software entrepreneurs, covering topics such as open source software, creating sales incentives, mergers and acquisitions, software as a service (SaaS) and globalization.

The lead-off keynote was from Hasso Plattner, a co-founder and ex-CEO of German software giant SAP. Today, Plattner is chair of the company's supervisory board, and also teaches at Stanford University. Plattner offered a vision of software as a service being driven by a world in which enterprise applications are designed to maximize employee productivity. He said that in the past, SAP

erred by basing its software designs almost entirely on features that customer executives said their businesses required—and didn't pay enough attention to researching the needs of individual workers.

A fan of Google, Plattner also believes that applications should be fast. With "Google-speed" response times, enabled by technologies such as in-memory databases, end users can get the information they need quickly to make decisions. Even if it takes many attempts to refine searches, if the searches are sufficiently fast, users won't mind. He also eschews attempts to make user interfaces "beautified," explaining that "to convey information, the most minimalistic form is the best." He said that SAP is working on a hosted ERP system that takes many of its cues from Google.

Plattner was followed by Shane Robison, chief strategy officer and chief technology officer for Hewlett-Packard. He talked about the importance



'Yesterday, developers focused on writing code. Today, they are business consultants.'

—Shane Robison, chief strategy officer and chief technology officer of HP

of software at HP, which was traditionally centered in three areas: software embedded into hardware products; software bundled with hardware products to differentiate commodity hardware; and systems management software, primarily OpenView. He emphasized that the company now sees software itself as a major product line, as evidenced by its recent acquisition of Mercury Interactive, and that software takes up 70 percent of HP's R&D spending.

Robison's view of software is that it's undergoing a rapid shift: "Yesterday, it was about personal productivity. Today, it's about communications and collaboration. That doesn't mean that personal productivity isn't

important, but the innovation is on the communications and collaboration side." He also believes that the role of developers is changing: "Yesterday, developers focused on writing code. Today, they are business consultants. With SOA, the need to write lots of code should be fading. Your code should be modular, and reuse should be big. If your development team is primarily writing new code, you should look closely at what they're doing."

Closing out the first day of Software 2007 was Marc Benioff, the charismatic founder and CEO of Salesforce.com. His presentation touched on the history of and vision for his

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'Mobility is going to make computing bigger, and more pervasive, than ever before.'

—Ed Zander, chief executive officer of Motorola

Navigating APPLICATION LIFECYCLE MANAGEMENT



“THIS IS NOT GOOD”

FIG. 9.—CAPTAIN BLINDSIDED AS FOG SETTLES OVER DEVELOPMENT PROCESS.
Nothing runs application development aground faster than a lack of visibility.

WHEN ALM SENDS AN S.O.S.

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So, uh, Are We There Yet?

Uptake in service-oriented architecture is real

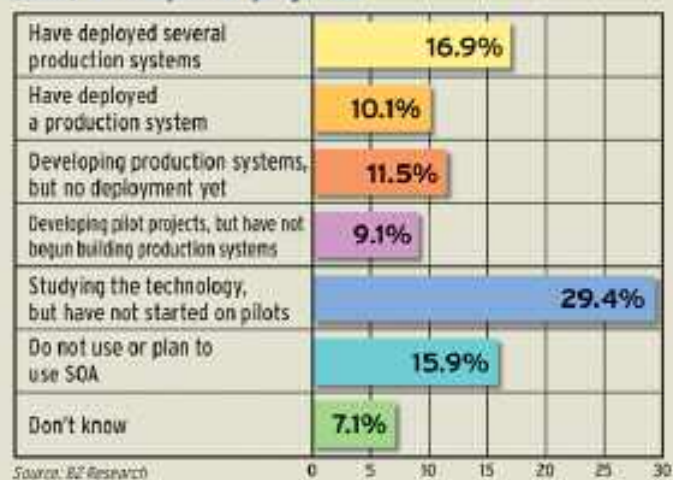
BY ALAN ZEICHICK

SOA is here, and it's real. According to the first annual SOA Use and Implementation Study, conducted by BZ Research in April, 27.0 percent of enterprise software development managers say that their organization has deployed one or more production systems. Another 11.5 percent say that they're building their first production systems but haven't deployed any yet, and 9.1 percent say that they're building their first pilot test of SOA. That's just under half of all respondents saying that they're actively working with SOA.

What about the laggards and holdouts? The study showed that 29.4 percent of survey respondents say that they're studying SOA but haven't started to build anything yet, while only 15.9 percent do not use SOA and don't plan to do so. The last 7.1 percent don't know what their companies are doing in this area, or wouldn't say.

This study was performed

Is your company or the companies to which you consult involved in any service-oriented architecture (SOA) development projects?



by BZ Research, like SD Times a subsidiary of BZ Media. The study was completed by 504 enterprise software development managers, and has an accuracy of 3 percentage points.

In regard to SOA deployments, one respondent said, "We're just in the early stages—while we don't have an

official SOA review team, basically our small enterprise architecture team has determined this to be the future direction." Another wrote, "In my company SOA is a principal strategy. All software employees are including SOA in our capacity plans."

"Recently completed four projects but funding has now run out. Have collected ideas on new projects but they must be funded by the line of business managers. This may happen in about six months," another respondent said. Another wrote, "We are positioned in defining the future state of SOA both from a standards and a solutions perspective. It would be my opinion that overall there is no company not at some stage of SOA adoption."

BIGGEST CHALLENGES

The study asked those people who are working with SOA to describe their biggest challenges when migrating to or implementing SOA. The biggest challenge, reported by 42.7 percent of respondents, is understanding the scope of the project. Technological complexity was a barrier to 36.9 percent, while an uncertain return on investment plagued 36.1 percent.

"Understanding business processes and building business [analysis] is really the biggest problem. A little chicken and egg also because until you have services built, no one wants to change their methodology," one

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NEWS BRIEFS

COMPANIES

IBM and Red Hat have announced an initiative to encourage growth of Red Hat Enterprise Linux on IBM System z mainframes. The companies said that the centralized mainframe and logical partitions, which divide the extensive resources of the mainframe between workloads, offer excellent security advantages. IBM and Red Hat also said they are forming a joint engineering team to provide additional capabilities for running Linux-based applications on IBM System.

NEW PRODUCTS

In what the company claims is the first automated solution for identifying and resolving critical defects in C, C++ and Java source code, Coverity has released **Coverity Prevent SQS** (Software Quality System). The offering delivers a "Software DNA Map" that leverages build systems to create a source code map, a multiple analysis engine, and a resolution system to remediate defects automatically . . . **TIBCO Software** was expected to release messaging software called **TIBCO AJAX Message Service**, which pushes live data and events from servers to Web pages and AJAX applications. TIBCO AJAX Message Service enables data to stream to the client over HTTP networks, and it has support of multiple concurrent users and performance monitoring . . . **Visual Numerics** has announced the availability of **IMSL C Numerical Library 6.0** and **IMSL Fortran Numerical Library 5.0** for Fujitsu PrimeQuest 500-series HPC (high-performance computing) servers running Linux and Windows.

UPDATES

TotalView Technologies, a provider of debugging and analysis software solutions, has released **MemoryScape 2.0**, the company's memory debugger. New features in the offering include the ability to debug Message Passing Interface and remote applications, along with support for systems running Linux, Mac OS X and Unix . . . A new version of **Fortify's Source Code Analysis** suite hit the market on May 1. **Fortify SCA 4.5** features out-of-the-box reporting capabilities, including an application portfolio, project summaries, a scan summary and a scan comparison. The new version also has drill-down capabilities and more regulatory compliance reports . . . Stability and security enhancements to the 5.x and 4.4.x branches of PHP were addressed with the release of **PHP 5.2.2** and **PHP 4.4.7**; maintainer The PHP Group recommends that users upgrade as soon as possible . . . **Klocwork** has released version 7.7 of **K7**, its static analysis product suite. The 7.7 release offers expanded IDE support for Visual Studio .NET 2005 and expanded stack traces for easier defect comprehension in Klocwork-supported IDEs. Company officials said the offering also has the ability to tag certain Java methods as unsafe and has improved the accuracy rate for existing Java checkers . . . **Green Hills Software** has announced enhancements to its **Integrity Workstation** operating system environment, adding support for Intel VT (Virtualization Technology)-enabled chip sets and processors . . . **JetBrains** made **dotTrace 3.0** generally available on May 14. dotTrace 3.0 introduces three new profiling modes: sampling profiling, routine thread profiling and minimum-overhead profiling. New methods to detect memory leaks have been included along with the ability to profile ASP.NET applications from within Microsoft Visual Studio and using Visual Studio Development Web server . . . **BigLever**, a provider of product line development tools, has announced the availability of an Eclipse plug-in for its **Gears** software, enabling users to integrate software product line engineering capabilities into their development tools . . . **ComponentOne** has released version 1.5 of **ComponentOne Studio Enterprise**, a tool set for Windows, Web, mobile and ASP.NET AJAX-enabled applications. The new version now offers developers Microsoft Office 2007 Ribbon-style controls.

PEOPLE

Christopher Smith of Platform Computing has been elected VP of standards by the nonprofit OpenGrid Forum, to lead the development of architecture and specifications for grid software. ■

What are the biggest challenges you face in migrating to or implementing a SOA?



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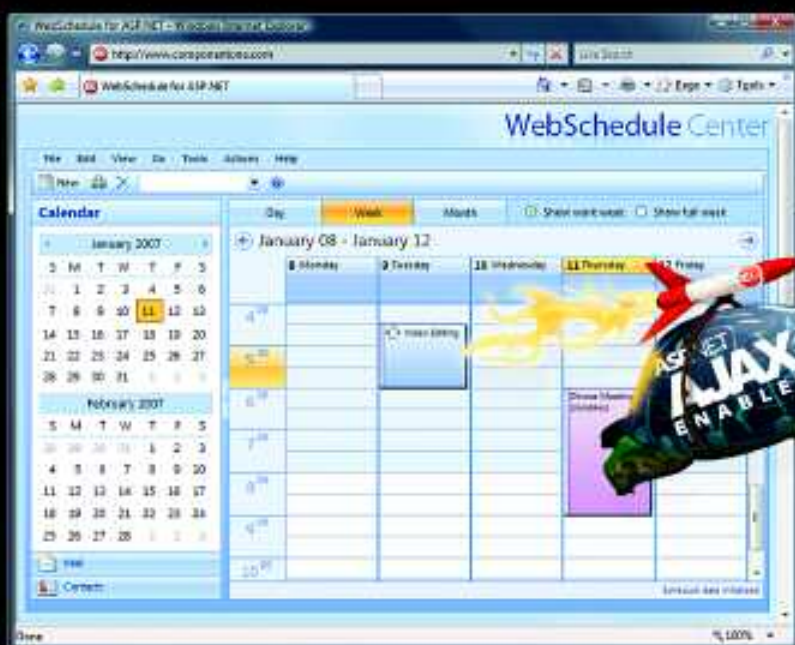
With the new **Studio Enterprise 2007 v1.5** Ribbon components, combined with Scheduling and Calendar, you can now build fully functional Office 2007-style applications quickly—with virtually no code.

Ribbon for .NET Highlights

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- Load and Save Ribbon Templates (XML format)
- Easy to Use Design Time Options using ComponentOne SmartDesigners™
- Office 2007 Visual Styles
- Windows Vista Aero Support

Schedule and Calendar Highlights

- Built-in data layer manages appointment, resource, contact, category, label and status collections automatically
- Day, Week, WorkWeek, and Month data views
- One control and one property manages all data views
- Office 2007-style AutoFormats
- Outlook-style appointments with custom recurrence and reminders
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- No Code AJAX Support (ASP.NET)
- Full ASPNET AJAX Support (ASP.NET)



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Microsoft's Marching to 'Astoria'

Research project exposes SQL Server data via ADO.NET as services

BY DAVID WORTHINGTON

Microsoft Research is incubating a new SQL Server data service for Web applications, code-named Astoria, that exposes data as a service to be consumed by Web clients within corporate networks and across the Internet.

Astoria uses the ADO.NET Entity Data Model and exposes entities as addressable resources to identify what information is available through the service.

Services can be accessed using HTTP requests with agents, using regular verbiage. Astoria URIs can point to a specific entity within a set by addressing the entity key defined in a service's data model schema. A URI can sort data by its properties when control information is included in the data string.

"The use of Web-friendly technologies makes Astoria ideal as a data back end for AJAX-style applications, rich interactive applications and other applications that need to operate against data that lives across the Web," said François Ajenstat, product management director for SQL Server.

The payload format is controlled by the client, and represented in the XML and JavaScript Object Notation (JSON) data interchange formats. JSON integrates with AJAX applications.

Pablo Castro, Microsoft's ADO.NET technical lead, speculates in a white paper on the Astoria Web site (astoria.mslivelabs.com) that UI elements in the ASP.NET AJAX framework will natively understand the Astoria URIs and that an Astoria client-side library will be built into Silverlight, Microsoft's plug-in for rich interactive applications.

DRIVING ASP.NET USE

At least one analyst sees Astoria as a way to increase the use of ASP.NET. "Astoria appears to be based on the ADO.NET entity framework [for actual storage]. If it pans out, it could make ASP.NET a more popular platform for AJAX apps," said Greg DeMichillie, an analyst with market research firm Directions on Microsoft.

A Community Technology Preview (CTP) of the Astoria

data services toolkit for ASP.NET is available from Microsoft Live Labs.

In related news, the ADO.NET team, in early May,

released the first CTP of Dynamic ADO.NET, formerly known by its project code name,

Jasper. Jasper is a set of extensions to the ADO.NET entity

framework that add a level of abstraction to data programming. With Jasper, developers work with entities instead of database schema, can query

within the entity framework, and use auto-binding capabilities for binding data to a UI.

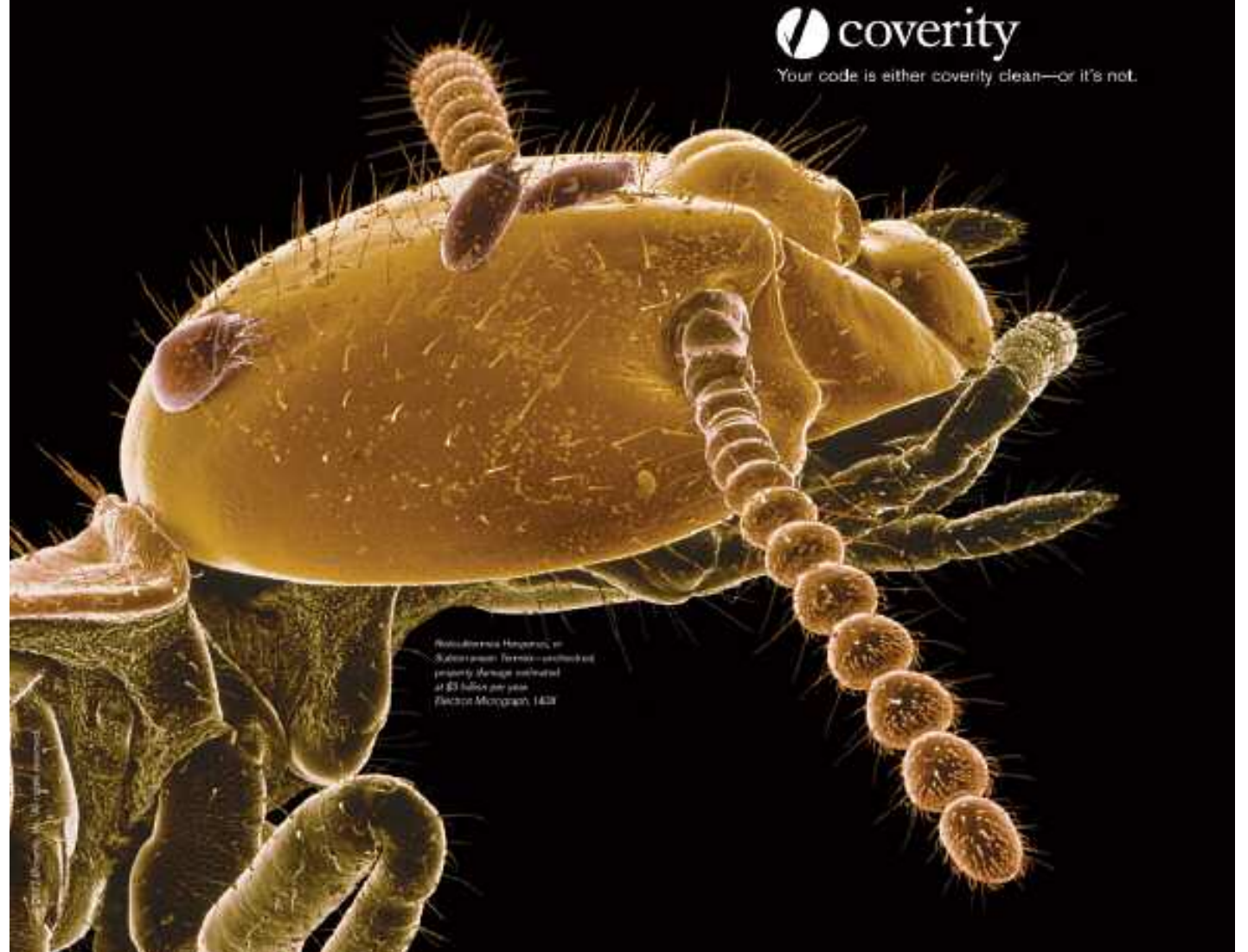
The CTP targets the Orcas edition of VB.NET and Iron Python 1.1. It works with any CLR language that supports late binding, and in the future, any language written on the Dynamic Language Runtime. ■

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Electron Micrograph, 1428

CodeGear Gets Agile With Ruby

BY ALEX HANDY

CodeGear is gearing up rapidly for a push into niche markets for its IDEs. The company's specialized language-centric IDE lineup was bolstered by the addition of two new prod-

ucts in May—an agile development environment for Ruby on Rails, and the newest version of C++Builder 2007. The latter of these offers rapid application development tooling for Windows Vista, while the former

showcases new capabilities specific to Ruby development.

There's more to the C++Builder 2007 rapid application development (RAD) environment than simple code generation, according to

Michael Swindell, CodeGear's vice president of products. "Because they're RAD tools, there's an assumption that there's a lot of code generation going on. But code generation is only one way to do it. What

we've done is 'componentize' complex APIs. To draw a menu might be 20 API calls. We can then sit down and do it in a single API call," said Swindell.

The IDE for Ruby on Rails, due out in late 2007, will offer a command-line tool that Swindell hopes will lure the grognards of the Ruby coding world out of the terminals, since many Ruby developers use the terminal during testing to fix bugs on the fly.

Also, CodeGear's Ruby on Rails IDE will add communication and collaboration features to help agile teams review and comment on one another's code. "Right now, developers use the Internet for information exchange. That's very valuable for collaboration. By 2009, we would hope to change that so the developer experience is much more integrated into the network. It's not just information exchange, but it's where the network is part of your developer experience," said Swindell. ■

DataDirect Fortifies Data Transmissions

BY P.J. CONNOLLY

Data connectivity vendor DataDirect Technologies announced on May 7 that SSL data encryption and Kerberos-based operating system authentication features had been added to its DataDirect Connect for ADO.NET, JDBC and ODBC data providers. DataDirect Technologies, an operating company of Progress Software, noted in its announcement that the intent was to help customers comply with regulatory requirements and protect information assets.

The new authentication features in the DataDirect Connect lineup allow connection-reuse and credential delegation, and according to the company, ensure systematic use of the authentication process by all application components, without wasting system resources.

Although SSL encryption of data between datastore and application can adversely affect application performance, DataDirect claims that the company's wire-protocol architecture minimizes network I/O and therefore reduces the overhead associated with encrypting and decrypting data. ■

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IBM: We Can Help Keep Code Compliant

Rational Portfolio Manager 7.1 offers risk management, governance

BY DAVID WORTHINGTON

IBM believes that it has the right elixir to keep businesses compliant with new regulatory

requirements such as Sarbanes-Oxley, while at the same time preserving their nimbleness. Rational Portfolio Manager 7.1,

slated for a June 29 release, is intended to manage compliance risk and govern software delivery to ensure that projects are

being carried out effectively.

Rational Portfolio Manager (RPM) 7.1 is designed to manage IT investments and help

relate line-of-business objectives back to those investments, so that companies can make informed decisions, said Dave Loche, director of offerings marketing for IBM Rational. To that end, IBM has worked in an array of new reporting capabilities, analytical tools and improved accessibility.

RPM integrates with the rest of the Rational software delivery platform to capture compliance data, keeping tabs on deployed resources, costs and time allocated on projects automatically—all without in-bound reporting.

Rational RequisitePro is newly integrated, and defines project requirements that flow into RPM as a work-breakdown structure. This eases the integration of requirements capabilities into IT projects, Loche asserted.

Working in the opposite direction, RPM pushes information into Rational ClearQuest, an activity management tool for development teams, all the way to the screen of the individual who's doing the work, Loche said. This integration is intended to strengthen process automation and reporting, as well as defect and change tracking. RPM also integrates with Rational Method Composer to instantiate processes and drive workflows.

VARIETY OF ENTRY POINTS

According to Loche, RPM is designed to be functional throughout every level of an organization because it has different views and entry points depending on one's role. For instance, a CFO uses RPM to read reports (top-down portfolio analysis), while project-level people use RPM if they have the right resources deployed to the projects under their umbrella (bottom-up process-driven project management).

A new analytical component automates decision and approval cycles while performing trend analysis on warehoused data. IBM retired RPM's reporting engine, allowing customers to use third-party tools to report on data. "By giving up our reporting engine, we give complete flexibility," said Loche.

Proximity is no longer an issue, thanks to an AJAX-powered Web-based thin client that can be used to view work assignments, update scope elements and view and update documents, and acts as a collection point for expense and time reports. ■

Connected Systems Solutions

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Unlock your Microsoft Excel® spreadsheet data for use in your business process with FarPoint Spread for BizTalk. The FarPoint Spreadsheet Schema Wizard integrated into Visual Studio 2005 provides a codeless approach to creating the schema that determines the mapping of the resulting XML messages. FarPoint Spread for BizTalk makes it easy to generate a schema.

The FarPoint Spreadsheet Schema Wizard loads a source Excel (XLS) file as a template and lets you specify the data portion of each sheet separate from the header and trailer. You can choose which columns are record elements and which are record attributes in the generated output, and you can choose the XML data type for each column.

- Integrates Microsoft Excel data seamlessly into your BizTalk applications
- Provides a codeless solution from custom schema creation through stream parsing
- Automates the parsing of XLS message streams into XML message streams
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Visual Studio

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"This is one of the single most important and long-awaited innovations to the business process integration (BPI) market I've ever seen."

*-- Jeff Lynch
Industry Expert and Microsoft MVP*



FarPoint Spread for BizTalk can automatically disassemble Excel (XLS) files in your BizTalk process.

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BEA Enters the Event-Driven Architecture Market

BY DAVID WORTHINGTON

BEA Systems is rolling out its event-driven architecture (EDA) platform this summer. The bedrock of the platform is WebLogic Event Server, a new Java application server designed for complex event processing.

BEA WebLogic Real Time 2.0 will provide an infrastructure for real-time transactions, while WebLogic Virtual Edition will help maximize server utilization.

The demand for Java is driving BEA's entry into the EDA market, explained Guy Churchward, BEA's vice president of WebLogic products, who claimed that the increasing volume of data being pushed through existing event processing systems is encouraging people to re-evaluate C and C++ applications and look toward Java.

Churchward explained that when customers asked BEA to look at event processing and event streaming from a Java perspective, the company's leadership realized that it needed to get its act together on Java functionality. Now, he believes that BEA has the necessary platform.

WebLogic Event Server (EVS) provides both infrastructure—security, management, monitoring and configuration—and core components, to help develop event-driven applications for a Java-based latency-sensitive environment. Gwen Durrill, the company's unit executive for time- and event-driven products, said that EVS uses lightweight containers based on OSGi technology.

The containers can mix and match the way data streams come into event processors and how data is correlated. Event processors perform complex event analysis. Containers are developed using the open source Spring framework, said Durrill, who added that BEA uses Spring across its WebLogic product line.

'EXTREME' PROCESSING

WebLogic Real Time (WRT) is BEA's entry into what is becoming known as "extreme transaction processing." In version 2.0, WRT now operates as a runtime layer and integrates with WebLogic Event Server. When the software is properly configured, the company guarantees a maximum response time of 10

milliseconds—shortened from 30 milliseconds.

New tooling in WRT 2.0 includes a latency analysis tool that works at runtime from within the JVM, without causing performance degradation,

and a new memory leak detector. WRT's event-processing language now handles non-linear events, so that rules can be applied against it, said Durrill.

BEA has extended the JVM with virtualization that stretch-

es down to bare-metal "Type 1" hypervisors without a conventional operating system, said Churchward. The JRockit Liquid VM in WebLogic Server Virtual Edition (WSVE) runs on VMware ESX Server.

"We want to be there for [the next big wave of application development]," said Durrill. And it will be soon. WSVE will ship in early June, while EVS and WRT 2.0 will be generally available on July 16. ■

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Population demographics analysis application



Web-based property management system



Using GIS components within a commercial IDE

BizTalk Services Gets Connected

Microsoft pieces together a firewall-friendly Internet Service Bus

BY DAVID WORTHINGTON

Microsoft's BizTalk Services offering has gotten more concrete for its foundation. BizTalk Connectivity Services surfaced in the BizTalk Labs' May preview, introducing firewall traversal and eventing capabilities. The larger part of the story is that BizTalk Services is not exclusively about the BizTalk server integration platform, but is integral to Microsoft's SaaS strategy.

BizTalk Connectivity Services offer two ways for developers to expose a service behind a firewall or across network boundaries: direct connection and publish-and-subscribe.

Microsoft distinguished engineer John Shewchuk explained that BizTalk Connectivity Services have hybrid connection capabilities that dynamically adjust between relayed and direct communications. "What was originally a relayed channel can then switch to direct connection, if it can be established. It connects directly between two end points," he said.

"This helps with speed and reliability. Most Web messaging today is fire-and-forget [unverified transmissions]," said Steven Martin, director of product management in Microsoft's connected systems division.

"This [enabling direct connections] is inconceivable to developers on their own. Direct connect overcomes the challenges of peer-to-peer; it's an Internet startup in a box," Shewchuk remarked. "Naming, security and firewall traversal are a huge economic barrier to produce a product, even before providing features. We change the economics of connected, distributed applications by providing all of that."

Shewchuk explained that publish-and-subscribe eventing provides URI multicast capabilities, on top of messaging, enabling developers to broadcast events to a specific endpoint, based on the content of the message. The updated BizTalk Services SDK shows how to use the new features.

BizTalk Services in its entirety is composed of the aforementioned Connectivity Services, as well as identity and workflow components that form the makings of what Microsoft calls an Internet Service Bus (ISB).

The BizTalk Identity Services handle all identity and access control requirements, and are built on Microsoft's WS-* based Windows CardSpace framework. Shewchuk noted that Microsoft was trying to improve the ser-

vices' claims-based access model, used for group creation and capability-based access control.

With this infrastructure in place, it is possible to have workflow functionality, explained Martin. BizTalk Services' Workflow Services component, a hosted instance of Windows Workflow Foundation, provides that functionality.

Microsoft claims that the BizTalk ISB is really a true ESB (enterprise service bus) because it forms an infrastructure for applications. An ISB, unlike an ESB, is firewall-friendly and does not require a significant footprint within an organization, claimed Martin, who added that using an ISB leads to more rapid deployments and keeps intact developers' local infrastructure. Each of the BizTalk services is WS-* based, uses HTTP for messaging, SOAP for data management, and RSS for moving data.

"Developers tell us that the ESB model is the right answer. We are taking our ESB and providing [it] to developers as hosted services," said Shewchuk.

"Most ESBs are proprietary," he continued. "We did this amazing thing and instead of plumbing a proprietary service bus, we use Internet proto-

MICROSOFT: RFID FOR THE MASSES

BizTalk Server 2006 R2 will lay the foundation for Microsoft's RFID strategy, which places BizTalk at the center of an integrated stack of RFID data, back-end systems and line-of-business applications.

At RFID Journal Live 2007 on May 2, Microsoft's Anush Kumar, worldwide product manager for BizTalk RFID, announced the availability of a beta version of BizTalk RFID that provides an API and tools for building solutions on top of BizTalk.

Data, device and event management facilities are included in the framework. Kumar said that BizTalk RFID would allow customers to cost-effectively build vertical solutions and configure RFID-driven processes.

Intel and Microsoft teamed up to build support for Intel's UHF RFID Transceiver R1000 reader chip and RFID Transceiver Interface into BizTalk. Kumar told attendees that Microsoft would make RFID readers and auto-ID devices plug and play into a network.

The final version of BizTalk RFID will ship in the third quarter of this year.

—David Worthington

cols like RSS and HTTP."

THE BIGGER PICTURE

Microsoft has recast the meaning of software as a service (SaaS) to software *and* a service. Now, its true purpose—for enterprise developers—is gradually being unveiled.

During his keynote at MIX07 in Las Vegas, chief software architect Ray Ozzie outlined Microsoft's new Web services strategy, saying that the best solutions integrated software and services.

Martin explained, "Today the

developer has to pick one versus the other."

The BizTalk services are some of the building blocks of Microsoft's "software and a service" topology, said Shewchuk. In a recent BizTalk team blog post, Microsoft's Marjan Kalantar described these building blocks as the "capabilities to enable developers to build interesting services and composite applications."

According to Kalantar, the other two categories of SaaS are attached services that feed into on-premise software such as Exchange Hosted Services and Windows Update, and finished services such as Dynamic CRM Live, that are delivered over the Internet.

"We see BizTalk Services as a complement to 'traditional' BizTalk Server uses on-premise. Over time, we want to ensure that BizTalk Server customers will be able to easily use the [BizTalk] cloud services in conjunction with their premise technology," Martin wrote in his MSDN blog.

"In general," explained Rob Helm, an analyst with research firm Directions on Microsoft, "the services Microsoft is providing are the kinds of things that are necessary for any business-to-business commerce system. The businesses in the system have to be able to check one another's identities, deliver business documents between their internal applications across firewalls, and keep track of the status of business processes that might run for days or weeks." ■

No Windows? No Problem

Microsoft's BizTalk ISB does more than .NET

BY DAVID WORTHINGTON

The BizTalk Services name is something of a misnomer, especially if you take Microsoft's new mantra of "software and a service" into account. However, BizTalk Server is not required to run BizTalk Services. Any application that supports WS-* can plug into the BizTalk ISB—even if it is not part of a Microsoft stack.

John Shewchuk, a Microsoft distinguished engineer, observed that ESBs (enterprise service buses), which vary from company to company, are the metaphorical equivalents of different national electric grids, with their own voltages, connected by transformers.

What Microsoft is proposing, Shewchuk said, is an Internet Service Bus (ISB), an Internet-

enabled "global ESB" that applications can all plug into. Shewchuk credits the WS-* family of specifications—in combination with Microsoft's use of open Internet protocols such as HTTP and RSS—for the interoperability.

"It all federates together. We use the same [WS-*] security model as Sun and IBM; the Sun directory can plug into Microsoft's ISB and customers can go full-bore heavy-duty with Tivoli," Shewchuk remarked.

Shewchuk acknowledged that there is still some work involved: Developers must either modify their existing enterprise applications or place a machine running BizTalk Server into their system for message translation. "Developers can add the capability [to

use the BizTalk ISB] since it is standard WS-* and Internet stuff. It's not a big job; the identity is in directories, and there is no big mismatch."

The latter scenario does not require any code changes. "Developers can take BizTalk and write a tiny program that listens to the ISB for requests, and makes corresponding calls to [Java EE] applications. They are all speaking with WS-*," Shewchuk explained.

When asked whether Microsoft intends to provide an adapter, Shewchuk hinted at the possibility. "We are not making a product announcement now, but [an adapter] would be a good idea."

Shewchuk laid out the case for the Windows-based solution, saying that its users simply



Microsoft's Shewchuk hinted that a Java adapter might be forthcoming.

take an existing .NET application behind the firewall, and change the network configuration and security policy to integrate with the ISB.

This, he said, is a profound change in the application development model that will simultaneously benefit small businesses and accelerate enterprise deployments, changing the economics of connected distributed applications. ■



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Apple Developers to Meet Over iPhone

BY ALEX HANDY

By now, it just seems that everyone wants an iPhone. The much slobbered over, yet as of this writing unreleased, device has certainly garnered its share of publicity for Apple since it

was announced in January. But this month, at Apple's Worldwide Developers Conference (WWDC) in San Francisco, the company is hoping the iPhone, in combination with a refreshed version of its operat-

ing system, can woo a new segment of developers. The company that built itself around bringing the digital world to the consumer is now hoping to bring Linux and Windows coders to its computers.

Ron Okamoto, vice president of worldwide developer relations at Apple, said that the conference will focus heavily on Leopard, the 10.5 iteration of Mac OS X; attendees will head home with beta versions of the

operating system and its companion Xcode 3.0 development environment. "We've been working over the last year with our developer community on creating products for Leopard," said Okamoto.

That new operating system, which Okamoto confirmed would be available in the fall, is packed with updated media technologies. One is Core Animation," which allows developers to build 3D, rich media animations similar to those used in the operating system's desktop environment. Xcode 3.0, written in Objective-C 2.0, will ship as part of Leopard in the fall; its updated Interface Builder 3.0 will allow developers to drag and drop sophisticated UI behaviors into applications. The Xray graphical performance visualizer, which leverages Leopard's embedded DTrace monitoring technology, is intended to benefit developers and users who want to know what's behind the spinning multicolored wheel that indicates a thrashing Mac application.

When Apple CEO Steve Jobs takes the stage for the opening keynote on June 11, Okamoto hopes Jobs will be addressing a room that contains many newcomers to the Apple operating system. Okamoto said that the company is hoping to reach beyond what he called "the traditional Apple developer base."

"One of the largest things we've heard from developers is the demand for Mac-experienced programmers," said Okamoto. "We want to start getting more folks from the Windows and Linux side of the world," he added. "We have guys who've said, 'All the Mac programmers are coming [to WWDC], but folks who've been on the Windows side are thinking about coming as well.'"

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**SCIENTIFIC DEVELOPMENT
POSTER SESSION:**
Tuesday, 6:30 pm-9:00 pm

APPLE DESIGN AWARDS:
Tuesday, 7:30 pm-8:30 pm
developer.apple.com/wwdc

Black Duck Hosts IP Solution to Enable Due Diligence

BY JEFF FEINMAN

Black Duck Software announced a new hosted solution that evaluates the integrity of software code as part of the due diligence process before purchasing a software company or its assets.

The transactIP service, unveiled in mid-May, is hosted by Black Duck and offers online reports for multiple parties. Black Duck officials noted that transactIP targets the parties to mergers and acquisitions, as well as legal teams and auditors. It provides information to the acquirer in a merger or acquisition, without showing source code or other intellectual property, keeping the parties separate.

The service also has many features available in previous Black Duck solutions, including the Code Label feature that generates a code review, and Knowledge Base, a catalog of

open source projects and code components.

Black Duck's transactIP joins protexIP, a suite of software compliance management solutions that govern the cre-

ation and management of software assets.

"transactIP is for those who need a snapshot right now of whether their code is in compliance with legal obligations and

used according to the license terms, and that frameset is an exact match to the parties involved in a financial transaction," said Doug Johnson, executive vice president of business

operations and CFO at Black Duck. "With transactIP, Black Duck now offers a range of methods for customers to manage [the code examination] part of the due diligence process." ■

CA Wily Adds Web Analysis

BY DAVID WORTHINGTON

Do bottlenecks and performance issues plague your Web applications? CA Wily thinks that it can help, with Customer Experience Manager (CEM) 4.0, which captures HTTP content and offers new troubleshooting capabilities for Web applications.

CEM 4.0, which became available May 24, also expands SOA support, integrates with CA Unicenter Service Desk and CA Wily Introscope, and runs test transactions.

Integration with Introscope permits CEM to take real-time views of customer transactions. CEM's Wily Transaction Generator runs synthetic transactions to test the availability of Web applications. Defects are traced back to their particular infrastructure tier, and alerts are sent to the appropriate manager.

When paired with CA Unicenter Service Desk, CEM automatically generates trouble tickets once a specified number of failed transactions occur.

"Products like CEM provide organizations with valuable, customer-centric visibility into application performance," said Jean-Pierre Garbani, vice president at Forrester Research. ■

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Sun Not the Only Newsmaker at JavaOne; Vendors

BY P.J. CONNOLLY

SAN FRANCISCO — The combination of allergens and marketing-speak filled the air as the JavaOne Conference opened on May 8, in what passes for a heat wave here. Fortunately, as the announcements piled up, the fog rolled in, permitting a cool-headed assessment of vendor news from the show.

Appistry announced a strategic partnership with Spring framework maintainer Interface-21, and previewed the Enterprise Application Fabric (EAF) for Spring, designed to help Spring users scale their applications

and implement them in compute and data grid setups, meeting the requirements of mission-critical applications reliant on high-volume performance and real-time analytics. Appistry EAF for Spring will be available this summer; a limited public beta is under way.

ARM introduced a new product designed to accelerate Java on mobile handsets. The Jazelle MobileVM allows developers to quickly find problems with software on production handsets with on-device debug features, and features that the company notes are intended to allow handset vendors and network operators to easily adapt the technology for their customers' use faster and with less cost.

Backbase announced unrelated partnerships with mashup server vendor Kapow, and tool maker froglogic. The froglogic arrangement will provide Backbase's customers access to the Squish automated GUI testing tool, while the Kapow deal is aimed at giving Kapow's customers in the financial services market the AJAX-based rich user interfaces of Backbase.

Coverity released Prevent Desktop for Eclipse, an extension of Coverity Prevent that the company claims allows Eclipse developers to find and fix software defects in source code as it is written. The Eclipse plug-in can analyze code locally as many times as desired, before checking into the central build and analysis process, and is free to existing Coverity Prevent customers, who are charged by project size, not seat count.

Jazillian unveiled a translation tool aimed at helping developers migrate code from C++ to Java, joining the company's C-to-Java and COBOL-to-Java tools. The new C++-to-

Java tool uses a pattern-matching, rules-based engine that generates what the company calls "natural" Java source code that is consistent, maintainable, and perhaps most important,

readable; the output code can be customized to support application and customer requirements.

Nitobi Software released a new Java EE version of its Com-

pleteUI suite of AJAX components, which added support for the Eclipse IDE via the Web Tools Platform, the Spring frameworks and Struts environments, a Java API that the com-

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Discuss Partnerships, Tools

pany claims simplifies binding to servlets, and JavaServer Pages tag libraries that are intended to make it easier to add AJAX to a project. CompleteUI supports ASP.NET, classic ASP,

ColdFusion MX and PHP, in addition to Java.

Mobile messaging provider **Oz Communications** announced what it called an industry first, a fully embedded Java

ME consumer messaging application. The Oz Mobile IM Client is available on Nokia 5300 handsets from T-Mobile in the United States, and Rogers in Canada. Oz claims that embed-

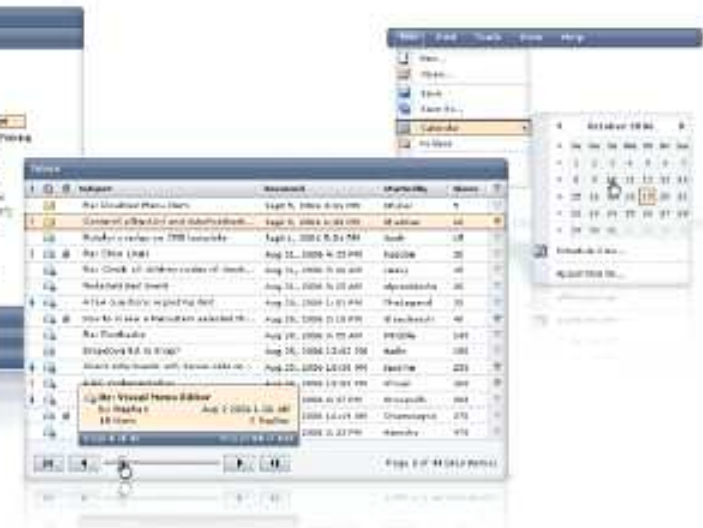
ding the application overcomes device-specific concerns such as battery and memory resources, or that device's implementation of Java ME. Oz says other devices with the Oz Mobile IM Client and the company's similarly embedded e-mail client are expected to launch "soon" in North America.

Parasoft announced the availability of Jtest 8.1, adding full integration with CodeGear (formerly Borland) JBuilder 2007, Eclipse 3.1 and 3.2, and IBM Rational Application Developer 7, and limited integration with IntelliJ IDEA and Oracle JDeveloper. The new release of Jtest allows developers to customize severity levels for unit tests, and offers what the company calls the ability to build sensitive, low-noise regression test suites from scratch. The BugDetective feature in Jtest 8.1 now offers a reality check of sorts, verifying that real application paths can actually trigger the reported exceptions.

Teamprise laid out its plans to create a Java SDK for Microsoft's Visual Studio Team Foundation Server (TFS), leveraging technology from the company's client suite, and providing a parallel to Microsoft TFS extension API for the .NET Framework. The first version of the SDK will concentrate on the TFS source-code and work-item tracking features, and is expected to ship by the end of this year.

Terracotta announced that its runtime JVM-level clustering software had been integrated with the open source GlassFish Java application server. The company claims that the combination of GlassFish and Terracotta will allow the development of highly available and scalable enterprise Java applications that are based on lightweight, open source components.

Transitive revealed plans for a portability tool meant to support the use in x86 environments of applications written for Solaris-on-SPARC. QuickTransit for Solaris/SPARC-to-Solaris/x86 supports existing applications without touching binaries or source code, in what the company calls a transparent fashion; it also supports virtualization on VMware, XenSource and similar platforms, allowing the consolidation of applications running on older hardware onto more efficient systems. A beta of QuickTransit for Solaris/SPARC-to-Solaris/x86 is expected in July; the company plans a production release for September. Apple uses the QuickTransit technology in Mac OS X 10.4.5 and later to allow applications written for the PowerPC CPU to run on Intel-based Macintoshes. ■



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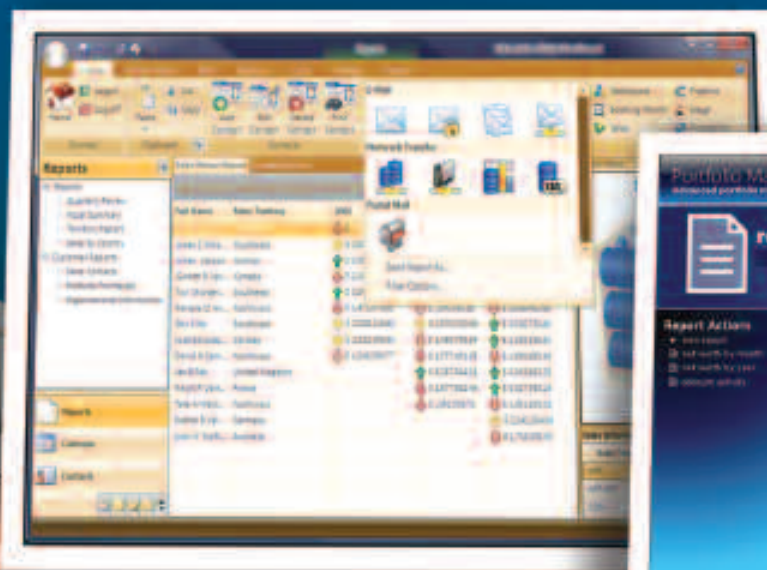
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Eight-Year Wait for Open Source Is Finally Over

Sun releases Java source code at JavaOne, names interim board

BY ALEX HANDY

It's taken almost eight years to happen, but Sun Microsystems has finally released Java as an open source project. The company made the announcement at its JavaOne conference on May 8, and opened a new Web site for dissemination of the source code (openjdk.java.net). Dubbed the OpenJDK (Java Development Kit), this package of files contains a large majority of GPLv2 licensed code, a smaller portion of code licensed under other terms (such as the Apache license and LGPL), and a handful of binary-only files that remain encumbered with intellectual property restrictions.

The move to an open source Java is accompanied by the formation of a new interim governance board. That group of five Java influencers is tasked with the job of writing a constitution for the project, and with developing the structure needed to usher Java along under the GPLv2 banner.

The Java governing board will be separate from the Java Community Process, and is expected to remain in power for a year, during which time the groundwork for the future will be laid. The five-member board is currently composed of computer science author Doug Lea, Brazilian Java developer Fabiane Biznella Nardon, Kaffe developer Dalibor Topic, and Sun's Mark Reinhold and Simon Phipps.

Since 1999, Sun has been debating internally whether to open the code behind Java to the public. Phipps, Sun's chief open source officer, said that when he was hired back in 2000, he was tasked with the sole goal of bringing Java into the open source community. He said that every year, prior to JavaOne, there would be an internal debate over whether or not that was the year in which it would happen.

"This year, the time line was set by Jon [Schwartz, Sun's CEO] and Rich [Green, Sun's executive vice president of software] talking at JavaOne last year," said Phipps. "Sun is very [collegial] in its structure. The topic of open source Java had been very well debated for eight years. Actually bringing it to reality has happened between this year and the last JavaOne."

NOT ENTIRELY GNU

But just because Sun has released a buildable JDK under a predominantly GPLv2 license doesn't mean that the community around the language is entirely satisfied, as yet. Jim Colson, distinguished engineer at IBM's Academy of Technology, voiced his concerns during a JavaOne public meeting where Reinhold detailed the contents of the OpenJDK.

Colson expressed concern over the wide variety of licenses represented within the Open-



Lori Tolson, vice president of the client software group at Sun, signs the OpenJDK charter, as Mark Reinhold, member of the OpenJDK governance board, looks on.

JDK, and pointed out that software development managers may have trouble building and deploying on top of such a mélange of licenses with different legal restrictions.

Additionally, some of the OpenJDK elements are not yet available as source code. This includes some aspects of the font rasterization facilities, 2D graphics rendering classes and cryptography capabilities. While these files are included in the OpenJDK as binaries, they are still encumbered with intellectual property restrictions, and cannot be distributed as source

code. Sun's Green stated during the JavaOne keynote that he hoped the Java community would build more compatible implementations of these functionalities, and contribute them to the OpenJDK.

HERDING COWS

Paul Kedrosky, the executive director of a seed fund for early stage technology companies at the University of California, San Diego, worries that an open source Java is too little, too late.

"Java remains in a difficult position in the marketplace for many reasons," said Kedrosky. "I

don't see that changing anytime soon. It's not the flavor of the month anymore like it was a few years [ago], or like Ruby is now. There's nothing fundamentally wrong with the technology; Sun just has a PR problem. People who used to be staunch supporters have moved on. [Other solutions] aren't uniformly technically better than Java, but whenever you get into a flavor of the month, that's a PR problem. To me, it's good, and a smart thing for them to do. But it's a bit like slamming the barn door after the cows have all left."

But Phipps is optimistic that the OpenJDK will evolve with great speed and enthusiasm. For now, he and his fellow board members are more concerned with figuring out how to structure the project. He stated that the governance board is not intended to arbitrate how Java evolves from now on; rather, it should be the court of last resort, helping to resolve disputes that are the exceptions.

For Phipps, the next year will be a major change of pace; after spending seven years wondering how Java can become open source, he's now tasked with the duty of setting up the ecosystem in which it will exist.

"If you actually look at the way we've evolved the governance for OpenSolaris, philosophically creating OpenSolaris wasn't the creation of a new community; it was opening the doors of an existing community. OpenJDK is also the liberation of an existing community. Its governance will draw a great deal of insight from that community," said Phipps.

But the OpenJDK community isn't the first open Java group. Java Micro Edition, the mobile version of the language platform, has been open source since the end of 2006, and already that project has 450 active members chatting about and coding for the platform. This new community is already extending the platform, as Sun announced at JavaOne, with new projects based on the open source Java ME code. These projects include a new test suite for GSM phones, a mobile version of the OpenLaszlo rich Internet application platform, and Blu-ray support for embedded devices. ■

Will Project Flair Amount to Anything?

BY JEFF FEINMAN

An alternative to AJAX? According to a Sun Microsystems engineer, that is what the company will be providing with a Web application development technology that it calls Project Flair.

An open source project with Web programming written in JavaScript, Project Flair combines a Web kernel and JavaScript to serve as a collaborative object development environment. Sun has not disclosed many details on the project because it is still in the research and development phase, said Sun spokesperson Kate Wesson.

When questioned, Wesson did point out that Project Flair has nothing to do with JavaFX, a

product suite that simplifies programming of rich graphical interfaces, announced at JavaOne in early May. "Project Flair is a research project in Sun Labs, and like all research projects, [it] may or may not become productized by Sun or a customer," Wesson said. "Research on Flair continues, but it isn't related to JavaFX, or other products Sun has in the market."

However, Dan Ingalls, a distinguished engineer at Sun, spoke about it at a Sun Labs Open House in Menlo Park, Calif., in April.

"AJAX sort of deals with all of the old way of doing things," Ingalls was quoted in published reports. "It makes it simpler,

which is great, but underneath, it's still all this junky HTML, Document Object Model, CSS [Cascading Style Sheets]—all that stuff, where 30 years ago, we knew how to do that stuff cleanly with a dynamic programming language and a simple graphics model."

Upon first reaction, some in the software development community seem to be wary of Project Flair. "I think it's somewhat foolhardy to make an attempt to create a Web framework, and not allow declarative design via (X)HTML and CSS," said Ryan Gahl, a consultant with Nth Penguin Consulting, in an e-mail. "If the simple graphics model proposed is going to be nothing but

explicit layout, then it will be a major step backwards. When I can have a designer express his vision as an abstract, then turn it into expressive XML, and separate concerns all across the board, why would I want something that ties design back into implementation?"

Jeffrey Hammond, a senior analyst with Forrester, said that Sun is heading in the right direction no matter what happens to Flair. "There are a lot of Java developers out there, so if there's a very easy way to do the types of things that people are trying to do with AJAX right within the Java environment, [Sun technologies are] going to be attractive." ■



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Getting On The Grid

Ian Foster envisions
enterprises taking
advantage of
distributed computing



BY DAVID WORTHINGTON

Ian Foster is sometimes called “the father of the grid,” out of respect for his research in high-performance distributed computing and parallel computing. Today, he is the senior scientist and associate division director of the mathematics and computer science division at the Argonne National Laboratory near Chicago.

Foster’s work has earned him high honors, including the Lovelace Medal of the British Computer Society and the Gordon Bell Prize for high-performance computing.

Foster has worked with the Global Grid Forum and Globus Alliance to advance grid technologies, methodology and standards, and to frame exactly how the industry should define “grid.” He is also a co-founder of Univa, a grid solutions independent software vendor.

SD Times sat down with Foster to find out if grids are still just the gilded playthings of researchers, or if they have a place in the enterprise.

SD Times: What does “grid” mean to our readers?

Ian Foster: A grid is about virtualization of information and workload. It means technologies for mapping workloads over distributed computing resources or technologies for making information stored in different places accessible in some uniform matter, or ideally doing both of those things at once.

To the extent that your readers are doing it, it is a single cluster or departmental grid, which accounts for most adoption at present. Industries like financial services see grids that are larger and multi-organizational, or at the enterprise level.

What do enterprise software developers need to know about grid computing in 2007?

There are a couple of things I’d like to emphasize. The first is that grid computing as a technology for virtualizing workloads is pretty mainstream. It is being done on a large scale and is not experimental anymore.

Second, we are seeing some very interesting developments as grids and virtualization technologies converge in many ways. Virtualization engines have generated great excitement; when combined with grid you get a powerful set of technologies for managing the mapping

of various application workloads to available computing resources.

The third thing to point out is that grid in the enterprise started off focused on workload and task management, and CPU management. In 2007, I am

starting to see some interesting things in information virtualization [such as] providing global access to large files that contain information needed for an enterprise to function.

Is this something they should be looking into, if they haven’t yet?

It depends on the enterprise, of course, but I think the questions to ask include: Are you finding that you are struggling with management of an increasingly large number of servers? Or, alternatively: Are personnel coming to you saying they do not have enough computing resources for what they need to do? If so, grid/workload software could be suitable.

A common scenario [that Univa encounters], particularly in a large-to-medium enterprise, is that the CIO looks around and sees clusters or large clusters acquired for departments’ own purposes.

continued on page 24 ►

‘SOA, grid and virtualization are all part of the same evolutionary trend in computing. Computing is becoming more distributed, automated and less tied to individual software running on individual computers.’

Survey Shows SOA Uptake Is Real

◀ continued from page 5
respondent said.

The study also asked those who said they weren't planning to migrate to or adopt a SOA—why not? Of those who responded to this question, one-third—33.6 percent—said that it simply wasn't a high enough priority, while 24.8 percent said that there was no in-house champion for a SOA effort. The same percentage, 24.8 percent, said that there were too many more important projects facing their organization.

"Company is too big to move fast on SOA. Too many skeptical old timers at the C level," reported one respondent.

"It appears that SOA strategies are being 'concocted' by committee/team that is insufficiently broad in application development background/issues and are taking advice primarily from outside consulting firms that have little understanding of the actual development/deployment resources within the overall organization," commented another respondent.

ARCHITECTS DRIVING

If you thought that software architects were the primary drivers of SOA projects, you'd be right. In this study, 58.8 percent of respondents said that, in their organization, software architects were involved with initiating SOA projects or identifying the need for the SOA project. In 59.6 percent of cases, the software architects were involved with recommending and selecting tools, platforms and services for SOA implementations.

Working closely with the architect is IT development management—people like development managers, project leaders and team leaders, up to vice presidents or directors of software development. The responses for those jobs were only slightly lower than for software architects.

By comparison, only 23.7 percent said that their CIOs were involved with initiating or identifying the need for SOA, and 23.0 percent said that the CIO was involved in choosing tools, platforms and services.

But while software architects control the technology choices, they don't control the purse strings. Only 14.6 percent of respondents said that software

architects were involved with approving the purchase of SOA tools, platforms and services.

Senior IT development management, at the vice president or director level, was

involved in 61.1 percent of organizations—and the CIO was involved in 38.2 percent.

"Strategy developed at high level—staff kept ignorant due to possible outsourcing opportuni-

ties. As a result current staff aren't going to be around for future development, so aren't consulted for their knowledge and aren't trained in new technology," one respondent wrote.

But another was more optimistic: "We are thinking about how to go from 64 stovepipe applications to 14 services. We also have a project to implement an enterprise service center using portal technology. We recognize that portal is the first step in both positioning and implementing SOA." ■

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Foster Advocates Grid Computing for Enterprise

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They are a management challenge and are underutilized. But overall, there is still pressure to meet peak demand.

There are some symptoms that suggest workload technolo-

gies could be useful. The thing to look for is whether informational management needs are reaching beyond traditional relational databases.

Those sorts of issues can be very problematic. With very

large data sets that are not easily accessible across the company and not easily moved from one department to another...information virtualization has proven very effective in those contexts.

What are the best practices to keep in mind while deploying grid software?

Things are not that different from other large enterprise software deployments. You want to start small, find some function

you know will benefit from grid deployment, and try to apply it there. It still seems to be the case that grid deployments tend to be built, not bought.

Often, integration with other enterprise software components is required. I think in a way it is derived from the nature of the technology. If you are concerned with workload virtualization, you need to integrate the grid solution you purchase with software that is generating the task or workloads you want to map onto computers.

Service-oriented architecture, or SOA, is becoming more common as companies align IT infrastructure to business strategy. Could grid technologies be rolled into SOA governance?

Yes, very much so. Some of the specific technologies the grid community has developed are very much about how to manage [the] infrastructure required to support distributed architecture.

This is true at a couple of levels. Web services and standards developed by the grid community speak to how to manage activities resources in SOA. Another thing is, as SOA takes off and services become more popular, the need arises to be able to dynamically provision services to run efficiently. Grid can have a significant role to play.

SOA, grid and virtualization are all part of the same evolutionary trend in computing. Computing is becoming more distributed, automated and less tied to individual software running on individual computers.

Where is it all going?

I think to some extent, what we will see happen is that grid is going to become less visible, because it will be widely deployed, often as part of virtualization solutions. When it started, the notion of workload virtualization was foreign to people.

Now, it is starting to be accepted. I wouldn't be surprised if two years from now people were not talking about grid, but using it as part of their technology suite they use to manage overall computing resources and the applications that run on them. One interesting question is whether, in [the] next two years, we will see an acceleration of outsourcing of computing functions. I suspect it will be more than two years before that becomes widespread. ■

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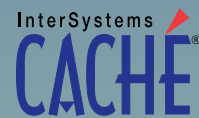
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Software Development As a Service Has Arrived

BY JEFF FEINMAN

Software development and deployment as a service (SDDS) might just be the next big wave to wash over software development because of its ability to reduce overall development and deployment costs, according to one analyst.

Bungee Labs, an Orem, Utah-based company that introduced itself at the Web 2.0 Expo in San Francisco April 15-18, announced an upcoming beta release of a service called Bungee Connect that allows developers to build and host rich Internet applications (RIAs). The product can provide easy access to Web services APIs from companies like Amazon.com, Google and Microsoft to build RIAs.

SDDS is all about "cutting down on all the administrative and configuration tasks and essentially passing them off to the service provider, so the user of the service can focus on writing code and assembling components together into an application very quickly," said Jeffrey Hammond, a senior analyst for Forrester.

Hammond said that although he does not expect more experienced developers who use Visual Studio or Eclipse to switch to SDDS, it has lots of draw for those who are looking to get things done quickly.

The goal of Bungee Connect is to increase developer productivity through reducing Web state management programming, automating AJAX interactivity, and providing runtime libraries of programming functionality. By providing built-in AJAX controls in its service, Bungee Connect removes the need for AJAX programming. This is done by a JavaScript client that is delivered with each Bungee-powered application, company officials said. The company provides an on-demand application development environment where developers can create RIAs and then deliver them as well on Bungee Connect's infrastructure grid.

Bungee Connect is scheduled for beta

release in late May. Brad Hintze, product marketing manager of Bungee Labs, said that with development as a service, the developer doesn't need to install anything on his own machine or on a server inside of a network to build applications.

Development as a service combines online Web application development with a near-real-time test-and-debug capability that costs the developer little to get into full production. Dana Gardner, principal analyst for Interarbor Solutions, said SDDS, specifically Bungee's method, is attractive because Bungee offers the option to developers to keep their code and property under their ownership.

The concept of development as a service has the potential to stretch into places beyond RIAs, Gardner said. "I think there's an opportunity to take this concept of development as a service to an increasingly large number of different kinds of applications, and you can couple it with infrastructure as a service," he said. "So I do think there's an opportunity to combine different kinds of development with different kinds of services on the support and infrastructure side. We might even get to a point where you deploy into production your applications on that same hosting service, and the infrastructure provider gets to monetize...the hosting of your application over its life cycle."

Some larger companies can already utilize development as a service, Gardner asserted. He said that Microsoft, with its Live services brand, will probably move fairly quickly to provide SDDS, though Microsoft spokesperson Rian Lawson said that no plans exist for that.

"I think it's got potential in two areas: one is assembling components and new applications very quickly, and [the other] is expanding the development market to make it easier for casual or business developers to get involved with creating Web applications," Hammond said. ■

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Industry Leaders Share Stage to Look at Software

◀ continued from page 3

company, and in particular pitched the use of Salesforce's Apex multi-tenant SaaS platform, AppExchange application directory, and new tech-

nology incubator.

"The infrastructure required to enable SaaS is so deep and so expensive that it's hard to enter," he said, "so we want you to create and run

your apps on the Salesforce platform, whether you're an enterprise or an ISV, because you'll inherit the features and infrastructure that Salesforce has created."

Always targeting his competitors, and in particular his ex-employer, Benioff's best line was: "Salesforce is like a marriage, and Oracle is like a one-night stand."

FOCUS ON MOBILE

The first of four keynotes on the second and final day of the conference was from Ed Zander, CEO of cell-phone maker Motorola but a man with a long history in Silicon Valley's software culture, due to his lengthy tenure at Sun. Zander spoke of the rising role of mobility, and envisions a world with mobility everywhere, broadband everywhere and content everywhere. He sees an increasing move from a tethered PC-based environment to one dominated by wireless phones, PDA and other small devices.

"What we're going to do with mobility over the next five years is going to be what Silicon Valley did over the past 15 years with personal computers. Mobility is going to make computing bigger, and more pervasive, than ever before." The challenge with Motorola, Zander admitted, is getting a 78-year-old company to understand that it has to innovate as fast as newer, slimmer companies, and to convince developers that in order to enable the mobile Internet, they can't just port applications—they have to redesign them for a mobile world.

When Zander was asked, "How will you deal with the forthcoming [US]\$500 multimedia phone"—a clear reference to Apple's upcoming iPhone—he immediately replied, "The real question is, how do they deal with us?"

Next up was S. Mahalingam, the CFO of India-based high-tech giant Tata Consultancy Services (TCS). Mahalingam was a last-minute substitute for S. Ramadorai, CEO of TCS; his keynote was in the form of a lengthy interview by BusinessWeek's Steve Hamm.

Mahalingam explained that TCS is growing at a phenomenal rate, adding more than 600 employees per week, and has expanded its operations—which are primarily IT outsourcing and offshore software development—into local offices in dozens of countries. He believes that there's no long-term issue with the graduates of India's engineering universities, in spite of published reports that many of India's graduates aren't ready to enter

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Business From a Variety of Perspectives

the workforce. He predicted strong growth for TCS, because of its expansion outside of India, its drive to provide complete IT services beyond offshore development, and its high margins.

When his turn came, Microsoft's Steve Ballmer was in his usual boisterous, exuberant mood as he launched into a rigorous presentation about the value of Microsoft's core platforms, Windows Live, Windows Vista, SharePoint Services and Office 2007; and also Silverlight, its new rich-client technology. A well-done demonstration by aerospace giant Dassault Systems showed off high degrees of interactivity between SharePoint and InfoPath, using XAML-rendering features of Windows Vista.

When Ballmer was asked to comment on Microsoft's view of open source software after forging its controversial cross-licensing agreement with Novell, he responded: "I won't talk about open source software in general, other than to say that there's a lot of great open source software going on on top of Windows. What we did with Novell is form a relationship around their Linux specifically. Our goal was to achieve better interoperability, and to ensure that our intellectual property was properly licensed."

He then continued very loudly: "Do we compete with Windows against Linux? Absolutely!! Don't be confused!!! If you come to us to talk about Linux, we'll try to sell you Windows. But if you really want to use Linux, we want you to use it in a way that's properly licensed and interoperable."

INFLECTION POINTS

The final keynote was delivered by Jeff Nick, chief technology officer of storage behemoth EMC. Nick presented the most technical of all the talks at Software 2007. His topic was inflection points between the key points of an enterprise IT system: information, application, infrastructure and interaction, all tied together with security.

For example, the inflection point between information and interaction is context and semantics—that is, concepts such as metadata modeling, ontological navigation and extracting knowl-

edge from information.

Nick discussed the need for developing new methods of innovation, which involve process pipelines that engage the customer in a virtuous cycle

spanning multiple product lines. He talked about the need to drive collaboration across the enterprise, and linking customers and companies together with tools like blogs, wikis and

forums, where ideas can be freely shared.

While Nick mentioned that "EMC is doing all these things," he didn't focus on EMC products or services. He

also acknowledged that innovation of this sort was happening all over the industry; he didn't claim any special role for EMC as a provider of solutions for those inflection points. Perhaps because Nick is a CTO, and not a CEO, his talk was refreshingly direct. And informative. ■

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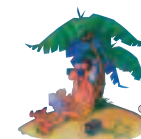
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COURAGEOUS!

INNOVATIVE!

Foiling malicious attacks where they may strike! Stomping out evil, site-bleeding bugs from the nether-world! Single-handedly lifting development teams out of harm's way! **LOOK!** Up and down the list! It's a leader!

It's an influencer! **IT'S THE SD TIMES 100** (with apologies to DC Comics)! This marks the fifth year we have given a nod to the organizations and individuals who have demonstrated leadership in their markets, based either on their share of those markets or on their technological innovation. This year's **SD TIMES 100** shines a somewhat brighter light on the industry "Influencers"—those companies that we've identified as having the greatest impact on the software development landscape. Our lists of winners, by category, remain the same. These, then, are the newsmakers and noisemakers of 2006.

Until next time... **'NUFF SAID!**

APPLICATION LIFE-CYCLE MANAGEMENT...

COLLABNET

Rolling out open.collab.net as a place for developers to tinker and collaborate on projects using Subversion has the software development world cooing.

ELECTRIC CLOUD

This company is ahead of the curve with its browser-based tool for automating the build process. Keep an eye on this Cloud because it tends to move fast.

IBM

Rational people understand that IBM continues to dominate corporate ALM with a complete, mature package of tools and services.

IRISE

Its change management simulator helps organizations see costs before deciding if change is necessary. A great tool that makes managers look smart.

OPENMAKE

One of the first to advance build beyond a nightly chore to incorporating it into a life-cycle approach, the company formerly known as Catalyst Systems sparked a change in thinking.

PERFORCE

It sticks to its knitting, and now expands into stronger compatibility with other players. Concentrating on SCM means Perforce remains a focused and professional system.

SEAPINE

From defects to SCM to QA, the company's offerings ran circles around bigger competitors. Successfully improved control of test runs and test cases in 2006.

SERENA

As the potent force behind the Application Lifecycle Framework, Serena had a stellar year in the ALM market. It cast Dimensions 10 as the new nucleus for its product base.

SUBVERSION

Organizations switched over in fairly large numbers from CVS to Subversion during 2006. Distributed teams mean distributed commits, and Subversion handles them with aplomb.

TECH EXCEL

By integrating its three main development products into one package, Tech Excel elbowed its way to a much greater piece of the ALM pie.

INFLUENCER...

APACHE SOFTWARE FOUNDATION

Tomcat, Axis, Harmony, Xerces, ANT, Maven, ActiveMQ, Jakarta, Geronimo, Struts... the list goes on and on, and the projects just get better and better.

BETTER & BETTER!

APPLICATION SERVERS....

BEA SYSTEMS

The upstart shows benchmarks that impress, and offers a surrounding development environment that eliminates the blood, sweat and tears of application hosting.

IBM

WebSphere is the biggest, baddest application server on the block. And with a free community edition, anyone can give it a test drive.

MICROSOFT

.NET continues to impress with the new development model and new twists on old designs. With ASP.NET and C#, the Ruby and JSP crowds have a lot less to crow about.

RED HAT/JBOSS

It's the only company to offer an entire stack around the application server, so going right to the source means fewer problems down the line.

SUN MICROSYSTEMS

Glassfish is the future. Sun's application stacks are the present. The folks that built Java prove they still know it best.

DATA MANAGEMENT SYSTEMS....

DATADIRECT TECHNOLOGIES

Its connectivity and integration tools continue to set the mark for others in the industry. In 2006, the company's new XQuery technology joined the fray and made its mark.

IBM

DB2 9 "Viper" offered its users improved compression and data management, and accessed data in Oracle and MySQL databases without special tweaking.

INTERSYSTEMS

Caché 2007 introduced the Zen framework for rich platform-independent applications, and the Jalapeño component that enables object persistence without mapping, reducing development cycles.

MICROSOFT

New tools integrating Visual Studio with SQL Server give developers and DBAs a chance to resolve conflicting perspectives with the same tools.

MYSQL

Although not quite a big boy yet, the open source database continues to gain acceptance as it adds industrial-strength features.

ORACLE

Oracle remains the 800-pound gorilla of enterprise database management systems. Although the increased concentration on services may detract from the company's core competency, it hasn't yet.

INFLUENCER...

ECLIPSE FOUNDATION

From open source project to religious movement: The foundation not only laid the groundwork for years to come, but also fostered a development community that adds new projects faster than Oracle buys competitors.

FASTER!

INFLUENCER...

FREE SOFTWARE FOUNDATION

With GPLv3 still winding its way to completion, the FSF helped to keep the discussions going, and turned 2006 into the most introspective year yet for free software.

IT'S THE LAW!

EMBEDDED....

GREEN HILLS

The RTOS provider is turning heads with embedded middleware, operating systems and platforms focused on security and performance. 2006 saw dramatic acceptance, and 2007 already looks promising.

MICROSOFT

If it isn't enough that Windows CE and Windows Mobile are showing up on an ever-increasing number of devices, the company is staking out turf in robotics as well.

QNX SOFTWARE SYSTEMS

The company has taken the lead in upgrading software and tooling to support multi-core processor setups, as their roles in embedded devices evolve from whiteboard to shipping product.

SYBASE

With iAnywhere providing a vast suite of middleware resources, Sybase is covering its flanks by offering tools for building smarter mobile devices.

TEXAS INSTRUMENTS

The legendary chipmaker has left its DSP competitors in the dust with the DaVinci line's SDK for Windows CE. Giving it away just makes it that much more attractive.

TROLLTECH

Smartphone developers are learning what cross-platform developers have known for years—Trolltech's application library is a can't-do-without resource for high-performance code.

WIND RIVER SYSTEMS

Already the leader in embedded development, Wind River is getting the open standards religion in a big way.

INFLUENCER...

GOOGLE

Its Web Toolkit alone makes this unstoppable juggernaut of innovation a corporate development player. Google's online offerings make it the headquarters for mashups, gashups and post-ups, thanks to code repositories, APIs and online office tools.

UNSTOPPABLE!

MODELING....

IBM

Whether modeling applications in UML or visualizing document-centric apps, IBM quietly maintains its leadership position in this space with mature, yet up-to-date tools.

METACASE

Domain-specific languages that raise the level of abstraction are the way modeling will become a more efficient way to develop software. MetaCase is leading the charge.

RAVENFLOW

The former N8 Systems uses a plain English-to-UML converter to help business people create visual requirements that IT can make sense of.

SYSML PARTNERS

The original group of software companies that created a version of UML for systems engineering called SysML, which picked up steam in 2006.

TELELOGIC

It moved to bring application modeling and systems engineering together in the embedded space while continuing to emphasize model-driven development.

COMPONENTS...

COMPONENTART

Builders of .NET applications find Web user interface and charting controls that stay current, even with major platform changes like Windows Vista and ASP.NET AJAX.

COMPONENTONE

Reusable code doesn't just have to be for GUIs; new components for ASP.NET AJAX, SharePoint and data reporting keep VS.NET coders in the suite spot.

DATA DYNAMICS

Data is active, and business reports should be active too, thanks to ActiveX controls that support data reporting, data mining and user interface design.

DEVELOPER EXPRESS

Leading-edge application frameworks for business applications and refactoring remove limitations from Visual Studio, Delphi and C++Builder development, whether for the Web or the desktop.

DUNDAS DATA VISUALIZATION

The vision drives developer productivity: From charting to OLAP to mapping, if your users can visualize it, Dundas can save your programmers from manually coding it.

ESRI

Maybe you can't go home again, but your software can navigate you there, thanks to an ever-expanding development library and data services for geographic and cartographic applications.

FARPOINT TECHNOLOGIES

Never underestimate the power of a spreadsheet to view and manipulate data, and innovations keep FarPoint's reusable functionality on the cutting edge of BizTalk, COM and .NET.

INFRAGISTICS

Vast collection of reusable Java and .NET code hits major platforms, major technologies, even those that aren't ready, like Windows Vista and WPF.

N SOFTWARE

Communications protocols, from WebDAV to EDI to SNMP, are hard to write and test, but fortunately these guys save your guys from that dreary yet essential task.

SOFTWARE FX

Charts, graphics, gauges, statistics: Whether for Windows, Java, COM, the Web or now SQL Server Reporting Services, Software FX's reusable components save enterprise developers time and money.

SYNCFUSION

Building apps with the latest Microsoft Office look-and-feel is easier with Syncfusion's essential controls that put the new ribbon and toolstrips into your own software.

TELERIK

Do it fast, do it right, with reusable assets for rapid UI development—and Telerik's tools keep evolving to handle new platforms, new apps, even new shapes.

INFLUENCER...

SMARTER!

IBM

Corporate software begins and ends with IBM tools. Whether it's Eclipse on the front, Rational at the back or WebSphere under the hood, IBM knows more about software than most nation-states.

TOOLS & ENVIRONMENTS....

ALTOVA

XMLSpy is still awesome, but the vision has expanded to include transformation, query, Web services and application design.

BUSINESS OBJECTS

Without Business Objects, high-level managers would never understand what you're talking about. Good reports make everyone look smarter.

ECLIPSE FOUNDATION

As if Eclipse wasn't good enough for coders, the rest of the enterprise now uses it as their rich client. A true sign of a great community and great leadership.

IBM

With robust systems for managing code, and great tools to help write it, IBM is the biggest banana in the tooling tree.

INSTANTIATIONS

Whether you're building or testing Java GUIs, Instantiations makes the process easy enough that even a manager could do it.

IVIS

xProcess changes those lovely best practices into die-cast working frameworks for your developers. The easiest way to push some sanity into the development process.

KRUGLE.NET

Outsourcing coding tasks typically results in files full of copy-and-paste checks. Skip the outsourcing, and let your developers search the Web with Krugle's massive database of open code.

LOGIXML

All that fancy software you've written ain't worth its weight in floppies if it can't produce simple information for your superiors. LogiB makes it easy to please the folks upstairs.

MICROSOFT

Visual Studio is still the only real game in town for Windows developers. And MSDN provides answers to just about every question a user could ask.

PREEMPTIVE SOLUTIONS

Obfuscated code means hackers will have a tougher time figuring out how they can exploit your systems. PreEmptive means obfuscation for .NET and Java doesn't need to be done by hand.

RALLY

Agile is a way of life. And with Rally's tools in hand, it's a lot easier to convince your developers to build unit tests and to share code.

SUN MICROSYSTEMS

NetBeans and Solaris go together like peanut butter and jelly. Sure, NetBeans runs elsewhere, but all those great Solaris tools make this combination reminiscent of workstation integrations gone by.

VERSIONONE

The A in ALM doesn't have to stand for "Application." For VersionOne users, it stands for "Agile." Process management and tools to ensure proper practices make VersionOne tools transformative.

VMWARE

It single-handedly alleviated the need for QA folk to restart their machines once every 10 minutes. Now, they simply fire up another virtual machine.

INFLUENCER...

INTEL
POWERFUL!

Compilers and tools that link directly to the processor just can't be beat by off-the-shelf solutions. And as those processors add cores, it means developers have horsepower to spare.

THE BEHEMOTH!

INFLUENCER...

MICROSOFT

Visual Studio isn't going away anytime soon, despite delays for the next version. Microsoft sings the songs that make the developers smile.

CONTINUED
ON PAGE 37

PUT ECLIPSE TO WORK!

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INFLUENCER...

SALESFORCE.COM

Disruptive technology as a mission statement. With Salesforce.com in the water, no fish is safe from having its lunch eaten out from under its nose.

INVENTIVE!

SECURITY...

COMPLIWARE

An acknowledged leader in software testing moves into the security arena with a white- and black-box testing tool upgraded to scan potential security flaws from inside Microsoft Visual Studio.

FORTIFY

It led the way in the open source space by creating the Java Open Review Project, a free Web site to help developers detect security vulnerabilities.

KLOCWORK

Static code analysis, now brought to the individual developer's desktop, sends a clear message that application security is no longer someone else's problem.

OUNCE LABS

Strong visualization and reporting capabilities mean that Ounce Labs' security scanner won't confuse the developers it was meant to help.

SPI DYNAMICS

It turned up the AMP and integrated it with its testing tool to manage security risks across the application life cycle. It took on Web applications too.

WATCHFIRE

It continued to bolster its flagship AppScan black-box testing tool by adding the ability to test Web services code for vulnerabilities.

SOA...

BEA SYSTEMS

BEA introduced the industry's first native SOA platform in 2006. SOA 360 sets the pace for 2007 with its unified platform for modeling, developing and deploying SOA applications.

MINDREEF

The whole purpose of SOA is software reuse, but to reuse a service you have to trust it—and Mindreef measures that trust.

ORACLE

It fleshed out a potent platform in 2006 with Oracle SOA Suite 10g, encompassing everything from governance, security and events monitoring to business rules.

QUOVADIX

Rogue Wave libraries demonstrate that SOA and Web services aren't just for managed code; C/C++ developers can participate with ease.

ROY FIELDING

The father of HTTP long ago laid out the plans for Representational State Transfer (REST). Today, it's gaining popularity as an alternative to the WS-* standards.

TIBCO

TIBCO's BPMS and business integration software is among the best in the industry, surpassing many of the biggest players in both implementation and strategy.

WEBMETHODS

It took SOA and turned it into a tangible, actionable system for enterprise integration. Likewise, it ran at the head of the pack in the BPMS space.

INFLUENCER...

NOVELL

WIDESPREAD!

Love or hate the agreement with Microsoft, Novell is in the news, on the Web, and now all over the GPLv3.

WEB DEVELOPMENT...

ADOBE SYSTEMS

Its execution on a vision for mashups with streaming audio and video, and other vector graphics, is just so far ahead of everyone else.

BACKBASE

As AJAX became a requirement for Web development, European company Backbase was one of the first to launch products to make it easier.

GOOGLE

Its maps are still light years ahead of anything else on the Web. And its commitment to expose everything as a Web service means Google is still the fastest horse in the barn.

JACKBE

AJAX + SOA = RIA and mashups. JackBe shows ardent dedication to simplified Web services and AJAX-enabled enterprises.

MICROSOFT

With ASP.NET AJAX, Redmond shows it is capable of embracing a new development paradigm with some excellent software.

NEXAWEB TECHNOLOGIES

A simple path from old-world applications to new-world Web interfaces, be they Java or AJAX. A pioneer in the RIA space keeps getting it right.

INFLUENCER...

SUN MICROSYSTEMS

Despite its characteristic shrugs from time to time, Sun

still has some of the brainiest buildings in Silicon Valley. With an open source Java, it'll soon be tapping external brains as well.

BRAINY!

TEST AND Q/A....

AGITAR

Pick a niche and strive to be the best in that segment. That segment, for Agitar, is unit testing for Java. This company's innovations continue to lead the industry.

AUTOMATEDQA

With a test manager, build system, performance profiler and bug tracker, the company delivers on its name—to automate the process of quality assurance.

AXOSOFT

It continues to tickle developers' bug-tracking sweet spot with clever, innovative user interfaces and the choice to run standalone or in a full-feature hosted environment, or to integrate tightly with Visual Studio.

BMC

Innovative tools? High-value customer base? Respected technology? Strong financial performance? Any two might be enough to make a small company an attractive acquisition target. Identify Software had all four.

COMPLIWARE

With perhaps the most diverse set of test tools offered, Compuware continues to excel equally in all areas, including unit, functional, load, performance and risk-based testing, and in requirements and even test-data management.

EMPIRIX

If there's a way to simplify Web application testing, chances are Empirix has thought of it. Its point-and-shoot functional, regression and performance test and monitoring tools lead the way.

HEWLETT-PACKARD

Mercury's test tools have been the industry standard for more than a decade. HP is now keeper of that public trust. Time will tell if it is up to the task.

ITKO

In the SOA-test arena, iTKO was out front with the concept of testing for business continuity. The company continues to push the limits of availability with its complete collaboration solution.

MINDREEF

Flagship SOAPscope helped set the standard for Web services testing before most people even knew the meaning of the term.

PARASOFT

Focused on preventing defects before they occur, Parasoft offers a broad array of tools for multiple languages that are well suited to testing teams large and small.

PRAGMATIC

Gives new meaning to the term "intuitive interface" with its line of Web-based tools for collaborative project, defect and software life-cycle management and its low-cost subscription model that fits any budget.

TELELOGIC

A list of leading test-tools companies would not be complete without Telelogic, which continues to raise the bar on tools for all phases of development, particularly in requirements management and test automation.

THE END.

Burton Set to Burn Rubber With Serena

New CEO's focus is on automating ALM

BY JEFF FEINMAN

New Serena CEO Jeremy Burton seems to like to keep things going at full speed, even when he's out of the office.

Burton, who stepped into the driver's seat at Serena at the end of February, is an avid race-car driver, using his Mazda Miata to dodge past opponents in competitions held by the Sports Car Club of America.

"While you're racing the car, you can think about nothing else than what you're going to do in the next half-second," Burton said, describing the rush of adrenaline that propels him as he roars across the track. "You can't think about work issues; you can't think about your dealings on a day-to-day basis. It's complete escapism from daily life."

When the race car is in the garage, Burton will be trying to steer Serena toward success, after replacing interim CEO Michael Capellas. He will focus on bringing fresh ideas to a maturing market. A former pro-

grammer himself, the Newcastle upon Tyne, England-born Burton hopes the company can build on some of its bigger offerings, including Dimensions 10, Serena's core ALM offering.

Part of determining the next step for Serena will involve taking a look at the trends of the past. Up until the past five or so years, IT was something of a mystery to the business side, and cranking out lines of code was the focus of programmers. Today, Burton said, organizations are demanding visibility into the process, and getting involved to make that process more efficient.

"I think folks have found out that 10 to 20 percent of the cost of application development is in the programming itself, but if the applications aren't built correctly, then it's very expensive," he said. "If you don't get the requirements right up front, you could spend that 20 percent on programming and still not end up with anything useful. So

what I've seen in the space is that the value of application development has shifted up a level or two."

Burton said he's trying to focus Serena on building a product portfolio to automate what the company believes are the most valuable parts of the development life cycle.

"Folks are realizing that all the money is going into maintenance," Burton said. "They want to have visibility into what the portfolio looks like, what is the cost of maintenance, how can we efficiently track a defect or enhance an application? I think everyone is looking to drive efficiency and make sure that things are done in a predictable, reliable fashion."

Burton said that areas he would like to improve within Serena's product offerings are incident management and



Whether in a race car or in the office, Serena's CEO Jeremy Burton steers toward success.



for developing Java applications and Web services that was first released in 1998. "Java was pretty new at the time, and it was an exciting time to be building with Java tools," he said.

Burton also founded the Oracle Technology Network, which is a free development community that has millions of members today. Burton said he embraced the idea of free software because the most important thing is to get the software into the hands of as many people as possible.

defect tracking. He said that he hopes Serena can offer an application that collects requests for IT services, which he called collecting demand.

Originally a C/C++ programmer with Oracle through the early 1990s, Burton said his experience with application development has given him a strong feel for the product side of the software industry. Burton said he led the team that created Oracle JDeveloper, an integrated development environment

Eventually getting involved on the marketing side of Oracle, Burton then joined Veritas, a storage management software company, as chief marketing officer and then executive vice president of the data management group. Burton became Symantec's president of enterprise security and data management after Symantec acquired Veritas in late 2004. ■

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The Future of Software: Services, Collaboration

◀ continued from page 1

specific problems, tasks that push potential software businesses out of the technology business model and into the services industry business model.

Maglio added that IBM took in US\$12 billion from its services business last year, and that this number has been growing since the 1990s. He discussed that portion of IBM's business in the context of the services industry, which the Census Bureau estimates to be 70 percent of the United States' \$12 trillion gross domestic product. Lumping developers into the same category of worker as fry cooks, journalists and wait staff may, at first, seem odd, but Maglio and others are convinced that many of the same problems that keep service industry companies from expanding may also exist in the software world.

'NO MAGIC BULLET'

That's why Maglio's primary job responsibility at IBM is to research methods for improving services. "Service systems are about people and technology, connected to each other by value propositions and shared information. Where do I put my money to get the biggest bang out of my services? We've got no Gordon Moore [author of Moore's Law] of services. There's no magic bullet. Nothing telling me 'invest in the people in this situation' [or] 'invest in the tech in this situation,'" said Maglio.

Paul Kedrosky agreed. He's the executive director of the William J. von Liebig Center for Entrepreneurism and Technology Advancement at the University of California, San Diego. The center invests in early-stage technology companies, and in this capacity, Kedrosky has been called upon to evaluate numerous service-based business models. He said that, traditionally, service companies are able to increase revenues only by hiring more people, which leads to diminishing returns.

Kedrosky worried that this focus on specific interactions with the customer can be difficult for some software businesses to grasp. Fortunately, he expects that software will provide solutions for better handling of customer relationships. "Service businesses are body businesses. You never get that scala-



'We can't just write software anymore. We have to worry about how the systems that provide services to people actually work.'

— Paul P. Maglio, services researcher at IBM's Almaden Research Center

bility thing going on. [Companies need to] find ways to do the grunt work. There's a willingness to do a lot more in software, than with people."

But Maglio isn't the only person researching the services business as it relates to software. Timothy Chou is the author of "The End of Software," and he sees a creative solution to the services problem. "In the U.S., we're out of being an agriculture economy and we're into being a services economy," said Chou. "If a services economy is just human labor, all we're going to

be is a labor arbitrage business. Even the guys in China won't work for a buck a month. We've got to move to use technology to lower costs." And Chou thinks that lower costs can come from collaborative work environments modeled after online games.

BACK TO BUSINESS

Innovation is the key to success in the software business, said Ray Lane, former president and COO of Oracle. He had his own predictions for the future of software. "We now have the infrastructure to deal with or to han-

dle and give the value of software in ways much different from the past. The landscape is changing quite a bit. The software business is at a crossroads," said Lane.

"It's at a point where the economic structure has or will dramatically change. The software industry has not gone through a pricing change like the hardware business has," said Lane, referring to the commoditization of computer hardware. "The software business is about to experience that same thing. Buying software was an expensive proposition. Usually, 40 percent [of the budget] went out the door for some software development infrastructure. That doesn't happen anymore."

Lane predicted that there will soon be a major thinning of the herd in the software business, and he expects that only the very large or the very innovative will survive. "Software prices are

going to fall rapidly. Oracle and others are going through this now, and they understand this very well. It's not about acquiring the functionality of PeopleSoft; it's about spreading the cost across as many customers as possible," he said.

Lane predicted the stranglehold of software giants such as Oracle and Microsoft will be eased in the future by companies such as Salesforce.com, which have the Internet as a basic foundation for almost all company interactions and innovations.

Chou agreed. "Some people have argued that the software business is mature, that we're in a period of consolidation. I think we couldn't be further from the truth," he said. "We're in a major period of innovation. I think, to quote the great Buzz Lightyear [of the film "Toy Story"], we're somewhere between infinity and beyond." ■

JavaFX Takes Sun Into RIAs, Mobility

◀ continued from page 1

ple are creating. We're seeing the early build-out phases. I think it's early," said Green, when asked if JavaFX Script would be too late to crash the Flash-dominated content creation party.

"We'll be announcing a road map; I'm not here to give dates today. We have an enormous number of skilled individuals inside Sun building tools," added Green.

The company currently lacks tools for the creation of JavaFX Script applications. Additionally, JavaFX Mobile is heavily based on technology that was acquired by Sun only a few weeks before JavaOne, pointing to the likelihood that JavaFX Script could be a long way from coming to market. Jeet Kaul, vice president of developer products and programs at Sun, said that the company is currently concentrating on the construction of new tools for the language.

"The thing that helps us here is we don't have [a] legacy here. We have a blank slate. We're looking at all of these things from a very different kind of perspective," said Kaul. He went on to state that content creators are used to many of the interface paradigms created by Adobe. "I think you're likely to



Sun's Green shows off the fruits of the SavaJe asset acquisition, as he demonstrates JavaFX Mobile on stage at JavaOne.

see a feature set most people are used to. Content creators will understand the paradigms in place," he said, adding that the SavaJe acquisition included some tooling for the mobile platform.

Kaul pointed out that the real power of JavaFX Script comes from its basis in Java. "Whenever you're building any kind of interesting animated content, you will be able to leverage all the Java platform APIs from within JavaFX. We're making a story that's going to work across all these platforms," he said.

Kaul also intimated that the company has assigned employees to the JavaFX Script project who break the mold set by the

standard-issue, highly educated and veteran Sun engineer. "Traditional Sun people" aren't working on JavaFX Script, he noted. "We've tried to get people who are more [about] content-tool authoring."

The people that Sun is seeking should be focusing their sights instead on Apollo, said Jeffrey Hammond, senior analyst at Forrester Research. He said that of the existing and forthcoming rich Internet application technologies, JavaFX more closely resembles Adobe's Apollo platform than Flash.

"I tend to position it along the lines of what we're seeing from Adobe, with Apollo," said Hammond. "It doesn't require

a browser. The security model and local permissions would be similar to what we're seeing with Apollo. It's client-based technology."

Hammond pointed out that JavaFX and Apollo are both targeted at uniting mobile and desktop environments, and that neither technology requires a Web browser, unlike AJAX.

Hammond also argued that Sun's decision to push JavaFX is a sound one, both from a business and an acceptance standpoint. "I think they needed to have a stake in the ground. Much like Adobe and Microsoft, they need to execute and need to execute as quickly as practical," said Hammond.

And while Sun hasn't yet released detailed plans to make JavaFX a paying technology, Hammond expects the company to push for revenue from the mobile side of the platform. "They're going to monetize the mobile part. They need to create demand for their platform because that's what Microsoft is doing with Silverlight. The worst thing they could do is monetize this as a standalone. Our research data shows lots of folks in the enterprise using Java, and if you give them an easy way to do RIA, they're going to be accepting of that." ■

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TopQuadrant Adds to the Semantic Web Environment

BY JEFF FEINMAN

The semantic Web is getting a lot of attention because it allows the easier integration of information, provides ways to combine diversely sourced data, and offers a language for recording data relationships. But one company has done more than write white papers.

Semantic Web technology provider TopQuadrant added two pieces to its TopBraid suite, completing the application development and deployment environment. TopQuadrant on May 21 shipped TopBraid Live, an application deployment platform, and TopBraid Ensemble, a collaborative information management application.

The company calls TopBraid Live a semantic Web platform, based on Resource Description Framework, the

SPARQL query language, and Web Ontology Language. TopBraid Live incorporates information from sources as varied as databases, GRDDL (Gleaning Resource Descriptions

from Dialects of Languages) documents, RSS feeds and spreadsheets. It also has a library of AJAX-based components, including calendars, charts and maps.

TopBraid Ensemble offers forms for creating and managing semantic content in its role as a collector of management information. The tool offers multi-user collaboration,

and facilitates ontology-based searches of shared content. Ontologies represent concepts such as classes and instances, their attributes and the relationships between them. ■

ComponentArt Controls 'True' To ASP.NET AJAX

BY DAVID WORTHINGTON

ComponentArt released Web.UI 2007.1 for ASP.NET on May 1, bundling 16 UI controls for ASP.NET, ASP.NET 2.0 and ASP.NET AJAX, and introducing the ComboBox Toolbar and the Dialog Controls. ComponentArt calls these the first "true" ASP.NET AJAX controls to hit the market.

ASP.NET AJAX introduces a framework for JavaScript development, including a comprehensive model for creating client-side components and controls, explained Miljan Braticevic, president of ComponentArt.

Braticevic differentiates "true" controls from "interoperability" controls, by discounting interoperability controls as existing ASP.NET 2.0 controls that "won't break" when they are used with ASP.NET AJAX. "True" controls, Braticevic said, are built on top of ASP.NET AJAX's component model and take advantage of its features.

Bertrand LeRoy, software design engineer of Microsoft's ASP.NET AJAX Team, concurred. "ASP.NET AJAX has its first set of commercial controls [in] ComponentArt Web.UI for ASP.NET." ■



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Aldon Looking to Expand Privately

BY JEFF FEINMAN

After selling itself to private investors last month, Aldon was expected to release at the end of May a multiplatform enterprise edition of its change management solution, Aldon

Lifecycle Manager.

The offering from the Emeryville, Calif.-based provider of ALM solutions, which is attempting to stretch beyond its midrange roots, supports a variety of operating systems

including Linux, Unix and Windows, and IBM software tools such as IBM WebSphere, Rational Application Developer and WebSphere Development Studio Client.

According to Aldon CEO

Daniel Magid, the new offering has a structure akin to SOA, with a central place to manage all security structures.

"One of the big things that we were hearing from customers was that they didn't

want to go in and have to manage authorities from multiple places," Magid said. "That came up a lot because there were errors; you could accidentally give people things they shouldn't have or take away things they should have, because you're trying to manage it in multiple places."

A new feature of the Aldon Lifecycle Manager enterprise edition is a Web-based security module that allows a customer to integrate security independently of the product. Aldon is calling this an integrated identity access management technology.

"Our idea is to give the enterprise single sign-on for the application environment," Magid said.

The enterprise edition of Aldon Lifecycle Manager focuses on managing the inventory of the parts that make up an application environment, including databases, documentation and test cases. Magid said it is important to allow customers to see those aspects from a "simple, central place." Wrapped around that inventory is an incident tracking piece, for monitoring requests from arrival time to the actual change in the code.

'A NECESSARY STEP'

On April 29, Aldon announced an IBM System i (formerly iSeries) version of Aldon Lifecycle Manager. However, the company is looking to broaden its horizons, and to help make that happen, Aldon announced on May 7 that it had been bought by Marlin Equity Partners, a private equity firm. Aldon officials said they view the deal as an opportunity to expand the company's financial resources and customer base.

"We were in the System i marketplace, and we were a very big fish in a small pond," Magid said. "When we moved out into the [commodity] systems market, we were able to gain customers because we had neat technologies and features, but we were competing with companies much larger than us [such as] IBM, Serena [and] CA. We found that in order to stay competitive, we needed to be able to move faster, because in this new marketplace, it's a lot more competitive. I think it's a necessary step for the growth of the company." ■

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Microsoft Readies SQL Server 'Katmai'

BY DAVID WORTHINGTON

The next generation of Microsoft SQL Server, code-named Katmai, is slated for release next year, with a Community Technology Preview due next month, according to company officials. SQL Server "Katmai" will be more deeply integrated with Microsoft Office system front-end tools, and will offer reporting capabilities more robust than in past SQL Server versions.

Katmai will also accept and manage nonrelational data types, including documents, geographic information and XML. Katmai provides more advanced data warehousing capabilities than SQL Server 2005 with updates to SQL Server Integration Services (SSIS) and the SQL Server engine's change-capture functionality. It can also synchronize data from devices to the central data store.

François Ajenstat, director of product management with SQL Server, said that data warehousing was an important scenario for Katmai. SSIS now provides an ETL (extract-transform-load) capability to SQL Server, enabling users to load and add data to a data warehouse, either in real time or in bulk.

SSIS replaces SQL Server Data Transformation Services, and tracks changes between the source and the data warehouse, and uploads changes in real time, Ajenstat claimed.

DEVELOPING WITH ENTITIES

The next-generation ADO.NET Entity Data Model (EDM) defines business entities—a part of Microsoft's shift away from the relational database toward a data platform, Ajenstat revealed. The EDM permits individual client applications to have custom views of the database; entities are independent of their underlying datastore representations.

Business entities can be retrieved and queried natively within any .NET language—compliments of LINQ (Language Integrated Query). LINQ support is built into the upcoming Visual Studio "Orcas" release, which will not ship until sometime next year, Microsoft officials have said.

Data entities are a model-based concept that provides developers with an additional layer of abstraction between the database and themselves, explained Ajenstat, who added that

they work behind the scenes to convert requests into SQL statements.

Users will be able to access Katmai's features with Visual Studio 2005 as well as Visual Studio "Orcas." Katmai also sup-

ports the .NET 3.0 Framework.

SQL Server in the Katmai release moves from scripts-based management to a rules-based system that defines a common set of policies for database operations. Katmai encrypts data

automatically; it no longer requires applications to be modified to secure data.


New data management views will collect performance data and generate management reports with historical compar-

isons. A resource governor will define individual resource limits and can prioritize workloads by controlling CPU wait times and execution times.

Database mirroring, a feature introduced in SQL Server 2005 to simplify application recovery from storage failures, will be automatic in Katmai. ■

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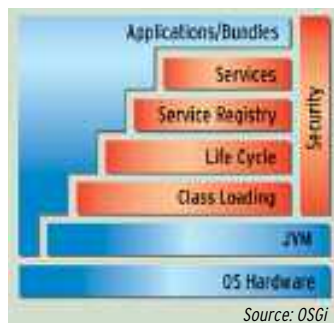
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OSGi Alliance Reaching Universal Middleware Goal

BY P.J. CONNOLLY

OSGi might not roll off the tongue, but in a little more than eight years of life it has become a quiet contender for the title of most important technology of the decade. Anyone who uses Eclipse uses OSGi technology, since it provides the component model for the framework. OSGi began in 1999 as the Open Services Gateway initiative, but the OSGi Alliance now describes its mission as the creation of a market for "universal middleware." In fact, a Java-based ecosystem has grown up around OSGi, thanks to the alliance's efforts.

BJ Hargrave, senior technical staff member at IBM and CTO of the OSGi Alliance, outlined the technology's role. "It's an enhancement to Java," he explained, "that deals with some issues that Java itself doesn't handle. Those are things like modularity, versioning, and basically, providing a structured class loader environment for people to deploy their applications into."



The OSGi framework (in red) allows the execution of multiple apps within a single JVM, through the use of an in-memory service registry.

Although OSGi originally began its life as JSR 8, a dynamic component model aimed at service gateways, it turned out that the principles were applicable far beyond the original vision, and what was once thought of as a nifty tool for developing networked embedded systems is now a powerful part of development for desktop and enterprise applications.

Hargrave pointed to OSGi's roots in the embedded device segment as an advantage for enterprise developers tired of

bloated, do-everything frameworks, saying, "Because of that heritage, it's lean and mean."

But what is it, really? Essentially, the OSGi Service Platform is a virtualized SOA that resides in the memory of networked systems. The OSGi architecture rests on five core capabilities. The first is a management facility for the application and component life cycle. Then comes a secure execution facility based on standard Java code protection features, with additional OSGi-specific security added.

Third, the OSGi Service Platform was specifically designed for unattended operation, so remote management capabilities were essential; CIM (Common Information Model) and SNMP are two of the management protocols that can be used with the OSGi platform.

Another goal of the OSGi component model was to provide for the use of commercial, off-the-shelf software; among the various OSGi Alliance members, the organization

claims to have implemented every common protocol as an OSGi bundle.

The final capability of simplified deployment is possible because the OSGi Service Platform smoothes over the underlying platform differences; the composition of an application or service can be changed dynamically.

Hargrave explained that OSGi's approach solves a num-

ber of issues with application support. "People deploy Java code all the time, and it's often very awkward to deal with it, because of packaging and versioning issues. Another strength of OSGi is that it lets me deploy versions of the same package into the same VM." Enterprise software vendors see the value of that capability, because it gives them more control over the upgrade path, he added. ■

SPRINT BUILDS PHONE SPEC ON OSGi

At least one phone carrier has decided to base its future on OSGi. Sprint told its developers last year that its 2008 lineup of CDMA EVDO rev A devices will be based on a Java/OSGi development environment.

Sprint's interest in OSGi is not restricted to phones, however, as the company's expected rollout of its WiMAX network later this year should open the doors for non-phone devices to climb aboard its network. One may be the next revision of Nokia's N800 Linux tablet, which now runs Java applications, and the company has blogged about efforts to bring OSGi to that platform as well.

These two companies have also been collaborating on the JSR 232 Mobile Operational Management specification, which is based on the work of OSGi, and both Sprint and Nokia are basing their future phone and Java device plans around the groundwork laid out in the specification.

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VMware Gives Workstation Crash-Replay Capability

◀ continued from page 1

everything else,” said Phillips, who claimed the new capabilities took more than two years to complete.

“We record all timing changes [in a] time-delimited [format] so you can literally go back in time with a debugger and do single-step execution,” said Phillips. “If a crash occurs, it’s going to occur again. You can single-step through the execution and have all external events happen as they were, so you can see precisely what happened from a register perspective or a buffer perspective. You have the ability to roll forward in a deterministic way and see everything you would see in a debug inspection.”

Currently, recorded virtual machine events cannot be transferred from one computer to another, but Phillips did state that this type of thing was in VMware’s plans for the future. “In the current release of the product, we don’t expose [that] functionality...but it is a direction we will be heading in,” he said, adding that future versions of VMware’s server product will take advantage of this technology.

“On one machine, the execution will be maintaining the recording that we can then ship over to another data center, that will get it to the same state of execution. If the first machine crashes, we can keep going with the execution from where it left off on the other server,” said Phillips.

‘HUGELY IMPORTANT’

Theresa Lanowitz, principal analyst at Voke, said that the new playback capabilities of VMware Workstation 6 are extremely compelling. “It’s hugely important. Now you isolate the exact time of the error, not merely say it was between 10:00 am and 10:07 am. You can look [at the application] millisecond by millisecond,” said Lanowitz.

VMware’s future plans for the system are also on Lanowitz’s hot list. On the subject of the company’s plans to evolve the playback system for use on servers, Lanowitz said, “This allows you to capture a virtualized moment in time and take it with you, like on a USB key.”

Additional changes to this

version of VMware Workstation include the ability to use two monitors on a workstation, and support for paravirtualization, a method by which the host and virtualized operating

systems can communicate, yielding performance enhancements for the user. Dual-head computers can now be forced to point the host operating system at one monitor and


the virtual machine at the other, or users can hand over both monitors to the VM.

VMware Workstation 6 supports the Virtual Machine Interface specification for para-

virtualization, which is currently available only in Ubuntu Linux.

VMware Workstation 6 also supports Windows Vista as both a host and virtualized operating system. ■

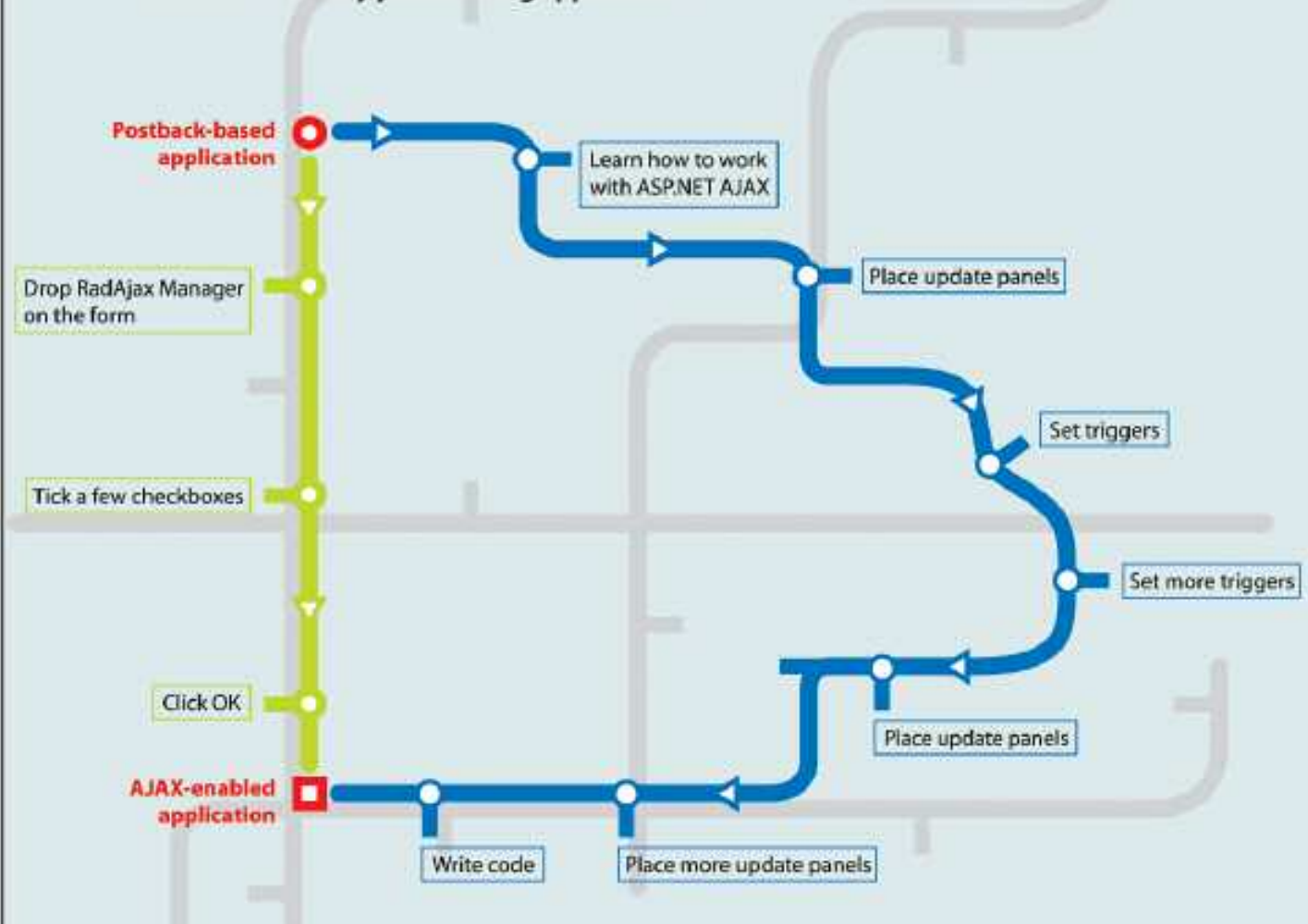
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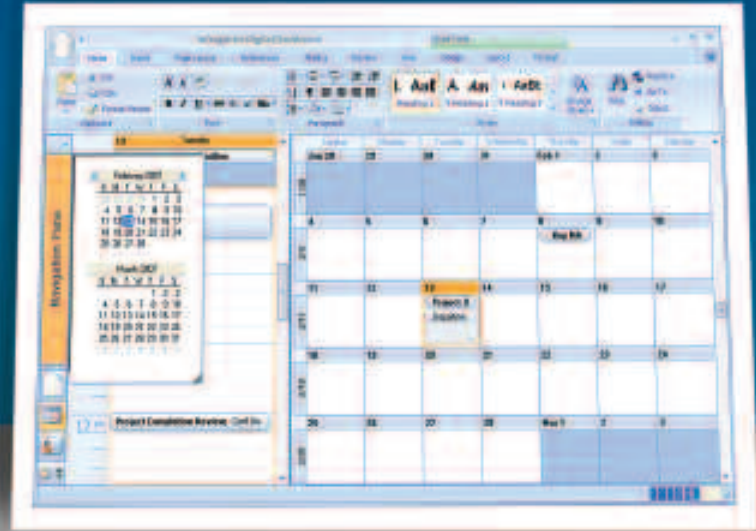
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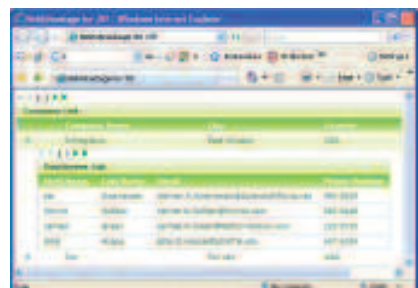
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A Second Shot at Number One

Java RTS 2.0 picks up where JSR 001 left off, adds Java SE 5 support

BY P.J. CONNOLLY

SAN FRANCISCO — At the JavaOne Conference held here in May, Sun Microsystems announced the release of Sun Java Real-Time System (RTS) 2.0, a standards-based implementation of Java extensions for real-time use, where predictable response under extreme circumstances is the essence of the application.

Java RTS 2.0 offers compatibility with Java SE 5, and can run both real-time Java logic built on the Real-Time Specification for Java (RTSJ 1.0.2, or JSR 001) APIs and standard

Java SE API-based logic. The company also made available a NetBeans 5.5 module for Java RTS 2.0.

Java RTS 2.0 includes a new real-time garbage collector that works with a new real-time thread class that allows soft real-time scheduling. In addition, it has high-resolution timers that Sun claims operate within a nanosecond's accuracy.

New memory management features in Java RTS 2.0 include what Sun calls an immortal memory model that preserves objects such as static data and class code until the application

terminates, a scoped memory model that contains objects for the life of an application-defined scope and reduces the need for in-memory garbage collection, and direct yet safe memory access that allows memory mapping of I/O and device drivers, permitting the writing of device drivers in Java without resorting to native code.

Two features of Java RTS 2.0 let developers maintain the temporal integrity of the system. Asynchronous event handlers allow developers to schedule application response without compromising real-

time operations, by intercepting and processing external events. Meanwhile, asynchronous transfer control provides secure thread termination, or the handoff of priority from one thread to another, again, without reducing the stability of the real-time components.

From a hardware perspective, Java RTS 2.0 is as flexible as Solaris 10 is; today it runs on SPARC and x86 hardware, but other platforms, including PowerPC and x64, are on a short list of candidates for attention.

Although, for now, the only operating system that works with

Java RTS is Solaris 10, that state of affairs won't last for long; the company expects to announce support for a real-time Linux version to be named later, perhaps as early as this fall, when an early-access version of Java RTS 2.1 is scheduled for availability. Sun has no plans to make Java RTS work with Windows Vista or XP, citing issues with the expression of real-time behavior on those platforms. Other RTOSes are under consideration for support; the company advises that developers lobby for the platform combinations of their choice. ■

Nokia Refreshes Symbian Tools

Eclipse-based suite offers new analysis features

BY P.J. CONNOLLY

Nokia announced at its recent Applications Summit & S60 Summit 07 in Madrid, Spain, the availability of a new release of its Eclipse-based Carbide.c++ V1.2 development tools for Symbian-based devices running MOAP from NTT DoCoMo, S60 3rd Edition, and UIQ.

Carbide.c++ V1.2 includes updated C++ code browsing and code completion capabilities across the entire line of tools, inherited from its update of the Eclipse CDT core, and offered in a variety of packages aimed at all tiers of developers.

The Express Edition is tailored for academic, entry-level and hobbyist developers, while an OEM Edition supports licensees of Symbian OS and S60. Developers creating advanced applications, middleware and system software may choose between the Developer Edition, intended for writing applications for production devices, and the Professional Edition, aimed at advanced coders working with prototype phones.

A new build system in Carbide.c++ V1.2 includes new wizards that detect more kit types and import more projects than before, updated project editors, the ability to import multiple projects at once, and support for command-line builds.

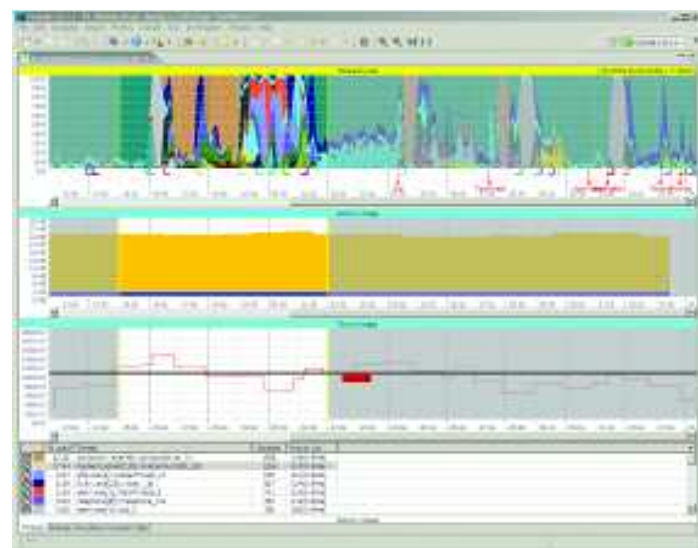
The Performance Investigator tool in the Carbide.c++ V1.2 Developer and Professional Editions includes new memory analysis and power optimization features, including capture and graphic display of memory usage and power consumption for targeted software, intended to help developers use these critical resources in the most efficient and effective ways possible; power analysis relies on a chip specific to the S60 device family.

Performance Investigator supports command-line execution and allows developers to capture usage patterns by

recording and displaying the button clicks of the software under test.

The Carbide.c++ V1.2 OEM Edition offers new device creation features that include a new Crash Debugger interface that allows developers to see the context of a crash from the debugger's perspective, simplified configuration support for JTAG device debugging, and the Symbian OS Data View, which allows developers to view system chunks, libraries, processes and threads.

Carbide.c++ Express is available for free download, with no restrictions on com-



The power analyzer in Carbide.c++ V1.2 overlays with CPU and memory load to give a fuller picture of critical system resources.

mercial use, from the Carbide Web site (www.forum.nokia.com/carbide); Carbide.c++ Developer and Professional

Editions are available for €299 and €1,299, respectively, and the OEM Edition may be purchased for €3,999. ■

Mass-Market Phones From Nokia Get More Java

BY P.J. CONNOLLY

Nokia unveiled the latest edition of its Series 40 platform at JavaOne in May, aimed at exploiting the increasing capabilities of mass-market handsets that can support Java ME, and incorporating the most recent definitions from MIDP 2.1, the Mobile Information Device Profile. The company expects to make the update available to handset manufacturers in June.

Series 40 5th Edition implements the JSR 248 Mobile Service Architecture (MSA) specification, which was designed by a task force that was led by Nokia and Vodafone to provide a consistent set of Java tech-

nologies for mass-market handsets. Because Nokia's higher-end S60 platform also offers JSR 248 conformance, the company claims that developers will find it much easier to write applications that support both Series 40 and S60 devices.

Alan Chau, technology marketing manager for Series 40, called the MSA implementation the "most exciting" part of the platform update, explaining that carriers and developers can trust that an MSA device will support a given technology base.

A wide range of new JSR implementations is in Series 40 5th Edition. Developers seeking a rich 3D sound experience will

appreciate the implementation of JSR 234, the Advanced Multimedia Supplements specification, while the Mobile Media API (JSR 135) provides a standard foundation for basic audio and multimedia features. The new edition works with Adobe Flash Lite 2.1 to provide rich graphical content for mobile networks, and can be used with a variety of multimedia messaging content formats and classes.

Web services are also part of the updated Series 40, which adds support for the J2ME Web Services specification (JSR 172), and implements the remote procedure call (RPC) package that permits SOAP-based access to

private and public Web services.

Series 40 5th Edition updates the platform's Java MIDP to version 2.1, which among other things allows the use of media hard-keys when the "Canvas" active screen area is displayed. In addition, the Bluetooth APIs (JSR 82) were updated, adding support for the OBEX object exchange protocol.

Cryptographic support also was beefed up in the Series 40 refresh, with the J2ME Security and Trust Services API (SATSA) from JSR 177 and an optional SATSA Crypto API.

Nokia expects to make new developer tools for Series 40 available in June. ■



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A Disciplined Approach To Healthy Software

Watch out for trouble around handoffs. Apply agile ideas. Run your shop like a business. Don't expect to change everything overnight.

That's a high-level summary of the advice offered by analysts, consultants and tool makers when asked how best to manage large application development efforts, where dozens of team members work across disparate locations.

"Application life-cycle management has never been easy, or automatic," said Upside Research analyst David Kelly. "It takes discipline and effort to put a strong ALM process in place, and the drive toward distributed development simply increases the challenge."

To help development managers achieve that discipline, SD Times asked more than 15 experts to weigh in with best practices for seven stages of the application life cycle: requirements, architecture, code, build, test, deploy and maintain.

Some key themes emerged from their responses. First, while each stage of the life cycle focuses on a single activity, it is critical to define each stage in terms of its relationship to the other stages, the experts said. This idea is fundamental to the definition of ALM itself, said Forrester analyst Carey Schwaber. "ALM is any best practice that connects those stages." The management of the application life cycle is about making sure the stages are in correspondence, she said.

"Don't think of them as separate stages, but focus on the coordination [among them]," added CollabNet CEO Bill Portelli. Each stakeholder is involved in every stage, but the nature of their concerns differs, he said.

ALM IS AGILE

ALM isn't about building software in one long sequential cycle, where one stage is completed before the next begins, the experts said. Ideas from agile programming, such as writing software in short stints, are central to ALM best practices, even for development teams that have not adopted officially agile methods such as Extreme Programming or Scrum.

"The serial way of working has been shown to be ineffective," noted IBM practice leader for agile development Scott Ambler. A better approach is to do a little of each thing every single day: some analysis, some design, some coding, some testing and so forth, he said.

"It's a bunch of short cycles [that keep repeating]," echoed Bruce Eckel, who heads the software development consultancy MindView. Rapid, repeat-

able stints bring problems to the fore early enough to fix them, he said. "[Otherwise] when a tester finds something fundamentally wrong with the architecture, it's too late to do anything about it," he said.

STAY ON TOP OF HANDOFFS

Another idea central to the experts' responses is that the ALM process is most likely to break down around handoffs. Managing those handoffs effectively increases a project's success. Trouble typically emerges when developers turn their code over to QA, or a business analyst bows out of the process once requirements have been defined, said Compuware marketing director Mike Burba. "The analyst should be shepherding those requirements into testing and beyond."

Keeping all players engaged throughout the ALM process is a tall order, often requiring a shift in mindset. The mindset that enterprise development teams need to take on is that of a commercial software company, said Voke analyst Theresa Lanowitz. "They share the same goals: high-quality software, delivered in a predictable, cost-effective way, with good customer service." But the notion of running the software development process like a business is a difficult one for enterprise shops to engage with, she said. So it's not likely to happen in a short period of time. "They say, 'We are not a software company. We are in financial services, or we are in the business of manufacturing,'" she said.

Finally, several experts cautioned that the ALM process cannot be transformed overnight. "You can't just say, 'Throw it out, and do it this way.' You have to figure out where the biggest pain point is, and then determine what changes the organization is capable of making," said Eckel.

Here's their advice for each stage of the application life cycle:

Requirements

Before you begin, ask the key question, said Balazs Fejes, chief technical officer for software development consultancy Epam Systems: "Is the planned application aligned with the strategy of the business?"

Elicit the right information, said Forrester's Schwaber. "Document it in a format that means the same thing to the business as it does to [the development team]." Don't draft 100-page requirements documents that line-of-

continued on page 50 ►

BY JENNIFER DEJONG



Left Brain, Right Brain, Whole Brain

What does it take to lead development efforts?

BY JENNIFER DEJONG

Help Wanted: Technology-savvy leader with a deep knowledge of the business. Must be able to translate from one world to the other, understand people, solve problems before they occur.

That's the job description for the business analyst role, redefined. Or perhaps the position of product manager is a better model.

Job title aside, analysts, consultants and tool makers agree those are the skills it takes to lead large, distributed development efforts, and that most companies don't have the right person in place today.

"The job requires right-brain and left-brain [thinking]," said Compuware marketing director Mike Burba. Both sets of skills are crucial: the left-brain thinker's ability to interpret details and logic, and the right-brain thinker's capacity to take in visual and creative cues, the experts said.

Traditionally, business analysts heading development efforts have been oriented toward IT or toward business, but

not to both, said Forrester analyst Carey Schwaber. "That is hard to shake."

The role has also been seen as one for a "manager," not a leader. But that has to change, said Scott Ambler, IBM practice leader for agile development. "[The position requires] true leadership. It isn't project management. You need to understand the people and the technology. You need to solve problems before they occur, and [understand when] to get out of the way."

The role that comes closest is that of product manager, the experts said. Like product managers, those leading development efforts must have a foot in two worlds, said Telelogic senior director John Carrillo. "A product manager is the conduit to the customer, as well as an interface to product development labs." Those leading development efforts straddle the business side of house, and IT world, he explained.

Product managers have profit-and-responsibility, and professionals heading development efforts should have that, too, said Voke analyst Theresa Lanowitz.

"You need to give them complete control over what they are about to deliver, complete accountability and authority."

But how do you find that person? "Look for top performers—the young up-and-comers—in IT as well as high performers on the business side," said Compuware's Burba. The business analyst role should be seen as a reward for high-performing individuals. Making that happen often requires a shift in corporate culture, he said. "Big companies have a checklist for employees on the fast track. They have to gain experience in operations, in customer service, and so forth." IT experience must be added to that list, and business analyst is the right role for fast trackers to take on, he said.

Team members—architects, developers, testers, operations managers—need to broaden their skill sets, too. "Professionals who can perform many tasks make teams more efficient overall," said IBM's Ambler. "If your only skill is writing use cases, every use case is going to be highly polished." Sometimes that's necessary, but sometimes that's a waste of time, he explained. "Maybe all you need [for use cases] is a short, bulleted list."

What development teams need is "generalized specialists," said Ambler. The help wanted ad should say: "General knowledge of software development, with one or more specialties. Willing to work with others; willing to learn more." ■

Taking a

◀ continued from page 49

business managers can't bring themselves to read, she said. "Express what they care about, and make sure they buy into it." It's essential to be explicit, added Compuware's Burba. "The line-of-business manager is thinking, 'Of course the IT guy knows [this application relies on] credit card transactions.'" But making that assumption is risky, he said. "In reality there's a disconnect." It is also important to prioritize requirements, emphasizing those that bring the most value to the business, said Telelogic senior director John Carrillo.

Employ skilled personnel to lead the requirements gathering process, said Forrester's Schwaber. That person is essentially a translator, who bridges the gap between business and IT, and knows how to elicit information from both parties, added Compuware's Burba.

Collocate developers with line-of-business users, said Serena Software CEO Jeremy Burton. "Conventional wisdom says developers don't interface well with the business," he said. "But [the collocation approach] can be stimulating, and I have gotten a good reaction from developers."



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Disciplined Approach to Software

Use more than one media type to capture requirements, said Schwaber. "Some text, some simulation, some process modeling and storyboarding."

Embrace the idea that it's impossible to know all application requirements up front, said MindView's Eckel. "The notion that we can accurately define all application requirements at the beginning of a project is false," he said, citing a key concept of agile methods.

"Don't write them down too soon," echoed Mary Poppendieck, co-author with Tom Poppendieck of "Implementing Lean Software Development," among other books. At least 30 percent of requirements change during the

development process, she said. "If you have to change them, you wrote them down too soon. That is a waste."

Gather input from each stage of the application life cycle. QA professionals should be part of the requirements meeting, said Borland director of product marketing Marc Brown.

Application support people should be closely involved, too, said mValent CEO Swapnil Shah. "You need a clear understanding of underlying infrastructure the application will run on."

Identify security and performance requirements. Line-of-business leaders have expectations around both of these issues, but they aren't likely to speak up about either one until

after the fact, when something goes wrong, said Steve Dystra, director of application delivery management for Compuware. Performance requirements are concerned with issues such as maximum response time, he said. Security requirements include validating user input, said SPI Dynamics security evangelist Michael Sutton. "Is the application taking in ZIP codes, and e-mail addresses? If it is, you need to validate that data."

Architecture

First consider the overall programming model, said Forrester analyst Jeffrey Hammond. "Over time we have seen that change from host-based, to client/server, to the Web application server model, to service-oriented architecture (SOA) and rich Internet applications. Each model has a distinct set of activities around it."

Identify reusable services for SOA, said Interarbor Solutions analyst Dana Gardner. Consider commercial services, such as PayPal, for processing payments in retail Web applications, and assets within the company, such as a data service that offers a common

view of the customer, he said. "Reuse has profound implications for saving money and extending the value of the application you are building."

Think about the long-term life of the application, said Borland's Brown. "A top-down dependency model is key." The application shouldn't depend on circular dependencies that can cause future problems.

Code

Use test-driven development techniques, said Schwaber, referring to the agile practice where developers write a test for the code prior to writing the code itself. "It makes builds more efficient, and it makes testing more efficient." And it also helps organizations build good (and complete) test suites as the solution is progressively developed, added Upside's Kelly.

Insist that coders write unit tests, said MindView's Eckel. "Developers should do a little bit of testing before handing over the code," added Schwaber. "Some redundancy makes sense."

Integrate coding with version manage-



continued on page 53 ►

Why Do Best Practices Matter?

Creating and using best practices for distributed development efforts can have a big effect on the return on investment for projects. A good best practices development strategy can help:

- Lower costs, including ongoing maintenance, update and testing costs (on budget).
- Reduce time-to-deployment for

future upgrades or modifications (on time development cycles).

- Improve accountability.
- Improve consistency.
- Isolate problems and speed resolution.
- Increase quality.
- Increase developer productivity.

Source: David Kelly, Upside Research
www.upsideresearch.com

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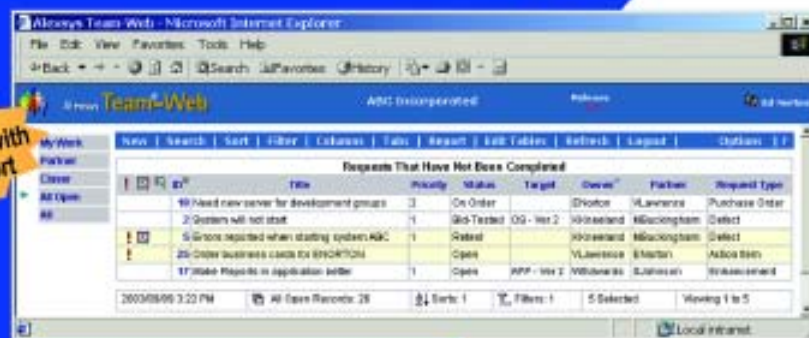
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Folder Diff is just one of the many productivity tools that come with the Perforce SCM System.

Experts Offer Tips For Managing Life Cycle

◀ continued from page 51

ment, said Epam's Fejes. "Every time you check something in, spin off a new build."

Move part of your coding effort offshore, said Serena's Burton. Provided you manage source code in a central repository, it makes sense to take advantage of the lower-cost talent that exists overseas, he said. At the same time, move local developers upstream to work more closely with the business side of the house, he said.

Don't let programmers lose site of the big picture, said Eckel. "They tend to fragment off into their projects." Instead, get them to create the bare bones of "Hello World" and seek feedback on what they've written, he said.

Use source code analysis software to find and fix flaws, said Gartner analyst Joseph Feiman. "It is ideal to address application security at every stage of the life cycle." But prior to the coding stage, there are no tools available to do that, he said.

Build

Build regularly throughout the application life cycle, combining components from multiple team members, said Schwaber. Verify that all of the integration points work, she said.

Replace build scripts frequently, said Schwaber. "They get gnarly over time. If our code was as bad as our scripts, we would be ashamed." But scripts are part of the code, she added.

Make sure code passes security tests before it's checked into the build, said SPI Dynamics Sutton.

Test

Import configuration settings from code to QA, said mValent's Shah. As code gets built, developers change configuration settings, such as those for the database and application server. But if the QA environment doesn't reflect those changes, the code won't run, he said. "We need the same level of care around configurations settings as there is around source code management today."

Map requirements to testing, said Compuware's Burba. "Use requirements to create test plans." Make sure that requirements are complete and accurate, he said. "If requirements are wrong, it's impossible to use them to drive testing." It's also important to test

every path, he said, referring to the different series of steps that might be involved in placing an order online, for example.

Automate the pipeline from build to test to deploy, said Schwaber. Deploy to production or a test environment, but make sure you are doing it continuously.

Deploy

Build some sort of packaging and deployment mechanism, even if all the pieces aren't there, said Eckel. "Otherwise it's hard to know if the application will deploy properly."

Put a process in place for incorporating feedback from users, said Sutton. "Software is developed by human beings. There are flaws that we miss."

Maintain

Propagate changes upstream, said Shah. Changes in infrastructure, such as an upgrade to a new version of Linux, happen all the time in production. Share that information with developers, testers and other team members, so a mismatch won't occur down the road, he said.

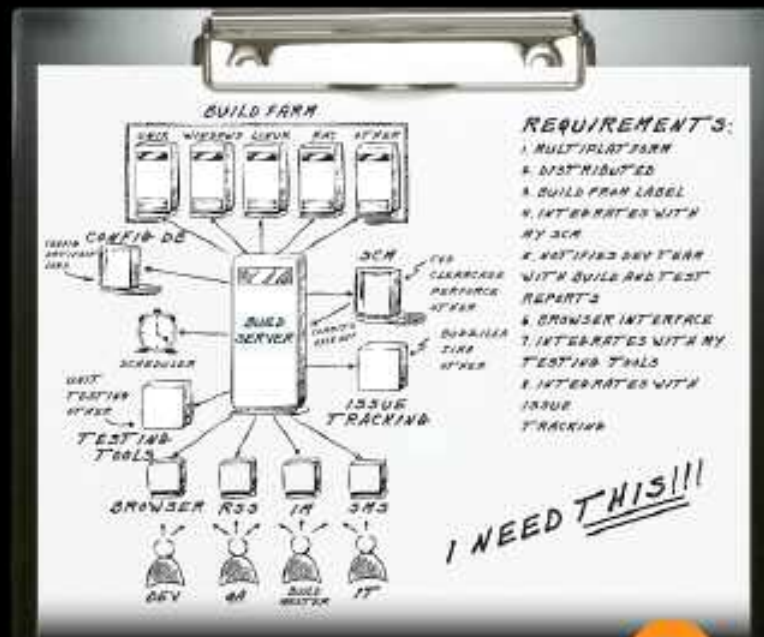
Continue to test during the maintenance phase, said Epam's Fejes. Keep running compatibility tests to make sure the application works with third-party components. "Dependencies are a big thing—especially with open source components."

Cut the cost of maintenance and allocate more money for innovation, said Serena's Burton. "Maintenance is the least sexy of the ALM stages, but IT organizations spend a disproportionate amount of money on it, sometimes as much as 60 to 70 percent of the budget." That's especially true when two companies merge, he said. "They spend huge sums of money taking two e-mail systems and making them one, for example." The more you cut maintenance costs, the more you can spend on developing new applications that further the business strategy, he said.

One way to do that? "Extreme self-service," where business users make feature requests or report defects online, he said. "Enhancement or defect requests take too long. It's critical to minimize the human intervention involved." ■

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FROM THE EDITORS

The Meaning of JavaFX

When Sun announced JavaFX, its answer to Adobe's Flash and Apollo and Microsoft's Silverlight rich Internet application platforms, the digital world paused for a moment, cocked its collective head and said "Oh? What does this mean?"

One set of questions took the form of: "Why does the world need yet another programming language and graphical framework from Sun? Don't we have enough to tackle this job?" After all, Sun has been promoting JRuby and Groovy as its two scripting languages for Java virtual machines, and Swing as its preferred GUI development toolkit. JavaFX is yet another garment cut from the same cloth.

Another set of questions asked, "Why is Sun going it alone again? Haven't they learned?" While JavaFX is planned to run within the JVM, its development is taking place *outside* the Java Community Process. Instead of using its established JCP, Sun has created an entirely new open source community, called OpenJFX, which it controls and dominates. In this regard, JavaFX is following the footsteps of OpenSolaris and OpenOffice: Yes, it's open source software, but Sun makes all the decisions, sets the direction and owns the intellectual property.

Beyond the questions, the idea of more players entering the rich Internet application space is a positive one. This newspaper welcomed the entry of Silverlight into a space long dominated by Macromedia/Adobe. We're glad that Sun is piling in too. The rich Internet space is ripe for innovation, and nothing spurs innovation like competition. Adobe, Microsoft and Sun are three companies that rarely back down, don't play well with one another, and are loathe to employ intellectual property that they don't own, so we're going to see a lot of differentiation between these products. We're also going to see back-stabbing, bad-mouthing and FUD-fighting. But then, what's new?

For Sun, a key element will be the quality of its JavaFX tools. With NetBeans, Sun has shown that it can make a first-class IDE for professional programmers. Unlike Adobe/Macromedia and Microsoft, it doesn't have experience serving content creators, artists and other nontechnical professionals. However, because JavaFX is designed for content creators, and not for software developers, Sun's JavaFX tools need to be friendly, easy to use, and forgiving to learn.

Microsoft Amps Up the FUD

Speaking of fear, uncertainty and doubt: There's no doubt that Microsoft is trying to intimidate customers and software companies into avoiding open source software. Last month, Fortune Magazine published an interview with Microsoft CEO Steve Ballmer, in which he all but threatened to sue customers and developers who used open source—because they were violating no fewer than 235 patents held by the software giant.

As threats go, it's a lot more credible than the one offered by The SCO Group a few years ago. SCO sued AutoZone, Daimler Chrysler, IBM and Novell, claiming that those companies were illegally using source code pilfered from Unix. Those claims have gone nowhere, but they did produce an initial shock in the market. Today, SCO is near bankruptcy.

Certainly, Microsoft is smarter than SCO. Claims about 235 infringed patents sound more credible than vague claims about copied source code. Plus, Microsoft has *very* deep pockets...and unlike SCO, has real reasons to be worried about the impact of open source operating systems, tools and applications on its business.

However, at the end of the day, FUD is FUD. In the long term, it won't convince customers to abandon open source software—or any other product that Microsoft deems competitive—by making threats. The only long-term way that Microsoft will retain its huge revenues, profits and market share is by convincing its customers that its products are technically superior and offer a better value. Maybe the FUD will win back some sales due to gullible corporate counsels who swallow Microsoft's storyline, but that's all. ■

LETTERS TO THE EDITOR

Bedazzled and Bewildered

I have actually read David Rubinstein's May 1 column ["You're Speaking My Language," page 38] more than once. In fact, more than twice. I am wondering if perhaps you really intended to publish it on April 1.

It caught my attention because I just participated in the 60th Newport–Ensenada International Regatta (in waters off California and Mexico). We finished mid-pack in our class, and we did it honestly.

Ami Cohen sounds like a very imaginative person. I have met a few people like him in my life—people with futuristic ideas who really have no concept of how to realize them. I think the clue in this case is "hidden" in the initials USCIIIIII. The I that stands for "intelligent" is that little detail that facilely glosses over the enormous gap between imagination and reality. Sure, "We'll just build an intelligent machine that can communicate in multiple human languages, and then we'll just tell it how to build a boat that rises up out of the water, and then it will build the boats, and the world will be a better place."

Hydrofoil boats exist now, of course. I rode on one a few years ago in Puget Sound. It was designed and built by human beings, and it used a large (gas turbine, I think) engine to power the pumps that allowed it to reach sufficient speed to deploy its hydrofoil stilts to lift its hull and "fly" over the water. I imagine it might be possible to create a hydrofoil sailboat, although I suspect that only a catamaran-type twin hull would be capable of attaining sufficient speed to allow the deployment of hydrofoils that would lift the hull out of the water. Then, because of the lateral forces applied by the wind on the sail, it

would most likely be a tricky balancing act to manage controlled, continuous, steerable sailing on those hydrofoils.

All this theoretical conceptualizing got me to wondering whether anyone had already attempted to build such a craft. Well, of course they had. See www.foils.org/sailfoil.htm for numerous references to successful twin-hull hydrofoil sailboats; and www.lesliefield.com/other_history/alexander_graham_bell_and_the_hydrofoils.htm for a historical perspective on the subject.

There are many more references to and photos of hydrofoil sailboats. I must say that I was surprised at the sheer number and depth of historical and current facts available on the subject.

Of course, I may have missed a crucial fact in the reading of your column. I did read it more than twice, so I doubt that I did. The fact that it compelled me to spend the time it took to write this is certainly some kind of testament to the intriguing nature of your column. Still, I would urge you to do a little more research the next time some imaginative soul contacts you and bedazzles you with a torrent of words.

Charlie Clarke

AVP Systems Analyst & Help Desk Coordinator
LBS Financial Credit Union

WHAT DO YOU THINK?

SD Times welcomes feedback. Letters should include the writer's name, company affiliation and contact information. Letters become the property of BZ Media and may be edited for space and style. Send your thoughts to feedback@bzmedia.com.

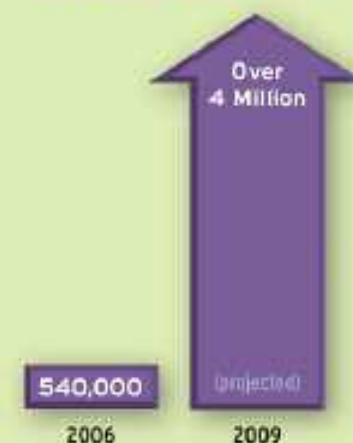
Virtualization Market To Explode, Says Gartner

DATA WATCH

Virtualization is driving cultural change and process change, beyond the goals of early adopters who selected it for reasons of cost saving and hardware consolidation, said Gartner vice president and distinguished analyst Thomas Bittman, at the company's Infrastructure, Operations and Data Centre Summit in Sydney, Australia, in May.

According to the company, the global deployment of virtual machines will increase at least eightfold, from just over half a million at the end of 2006 to more than 4 million by 2009. Bittman told his audience that Gartner believes that "virtualization reduced the x86 server market by 4 percent in 2006, and by 2009 it will have a far greater impact."

Worldwide Deployments Of Virtual Machines



Heading Down to RIA

With Microsoft's recent rebranding of WPF/E to Silverlight and other MIX07 announcements, the battle between Redmond and Adobe's Macromedia technologies is well and truly joined. Although Microsoft disavows that Silverlight is a "Flash killer," my impression is that they do so only because they have a certain sense of the advantages of a platform with 90+ percent penetration. Silverlight and Flash/Flex/Apollo are battling to expand into the same space of rich Internet applications that provide beyond-CSS UIs and local data manipulation in applications that may or may not be housed in a browser frame.

Things would be dire for Microsoft had not Macromedia (acquired by Adobe a year-and-a-half ago) underdelivered on the tools necessary for business applications in Flash. Until Flex, the Flash development environment has seemed almost perversely impenetrable to people with a background in programming. However, if you map the concepts of the "playhead" moving through "frames" into the instruction pointer falling through code blocks, things get much easier (especially if you've ever programmed Fortran or line-numbered BASIC). I actually look forward to programming Flash, if for no other reason than it's always a thrill to

program an animation. (Sadly, some tutorials on programming Flash that I wrote a few years ago are in copyright limbo—no longer on the Web site that paid me to write them nor clearly free for me to post.)

Flex, on the other hand, is a tag-based server-side language whose closest kin is probably ColdFusion, but whose concepts will be familiar to any Web programmer. The big difference with Flex is that Flash is used to render the interface.

I've spent some time with Flex, although not for a production application, and am reasonably impressed. It's certainly vastly easier for building forms-based applications than is the traditional Flash development environment, but since the first thing I do when installing a new operating system or browser is install a Flash blocker, I'm constantly reminded of the downside of a "rich" browser-based experience. I'm as appreciative as anyone of music services like Pandora or the ease of sharing videos with YouTube, but for every requested sound or video, there are hundreds of obnoxious advertisements. Such is the future of software, whether RIAs or no, and at MIX07 Ray Ozzie spoke of the benefit of "common monetization" schemes—that is, ads everywhere (look at Windows Live Messenger as an example).

Windows & .NET Watch



Larry O'Brien

THOUGHTCAST

WHAT DOES MANAGEMENT consulting giant McKinsey & Co. think about the software industry? "This is the best of times!" exclaimed Ken Berryman, a principal consultant, at the recent Software 2007 confab. He cited high single-digit growth rates and 30 percent to 50 percent profit margins for software companies, and declared that outside investment, from venture capital and private equity firms, is at an all-time high. Berryman reminded entrepreneurs that there are many different business models for running a profitable software company, and despite the current popularity of the advertising-based SaaS model, he insists that even older ways of selling software remain viable.

—Alan Zeichick

FOR ME, NEOLOGISMS AREN'T created, but rather they spring forth, like Athena, from my forehead. This week, I finally found a word that accurately identifies the misused language inflicted by marketers and copywriters: "abomination," from "abominable" and "definition." I see abominations in blogs, press releases and slide presentations, as people attempt to explain what exactly it is

that they are selling, even when they themselves don't understand it. The phrase "Web application layer" is a perfect abomination, perverting a useful and venerable abstract concept. I admit that English is sometimes inadequate, but that's why I've learned to tolerate five-part compound adjectives, if only when they actually make sense.

—P.J. Connolly

WHILE DRIVING A FRIEND around to return his cable box this past weekend, we discovered that the Internet is still not perfect. While Googling for the location of a Comcast retail store, we were given oodles of result pages that detailed Comcast sales deals, irate customer blogs and news of the company's larger business movements. But not a single address or map came back amongst those results. This is the same sort of muddle that one experiences when searching the Web for the very, very local, only to find results detailing the very, very global. Analysts have



Adobe stole some thunder from the MIX07 announcements by open-sourcing Flex, and while this is welcome news, it's mostly because of the "free beer" aspect, not the "free speech" aspect. Flex, like other complex OSS projects, will evolve under the direction and care of paid employees working to further the agenda of their corporate sponsors.

Silverlight, and the accompanying announcements of a Macintosh implementation of the CLR and increased dynamic language support, is a full broadside from Microsoft. The programming model is the new, but amply supported, XAML/WPF model. The CLR is reaching its third release, the clichéd point where even Microsoft detractors generally concede competence. ECMAScript is a better programming language than is generally recognized, but few programmers will prefer it to a choice of Python, Ruby or Dynamic VB.

However, Adobe owns the designer market and that is no small advantage. In the past decade, the power of graphics designers has increased relative to programmers. Sure, ultimately the software has to do the required tasks, but rightly or wrongly, users respond more to drop shadows and color palettes than changes in functionality. If Microsoft cannot win over the design community, the seemingly superior technical infrastructure of Silverlight may not matter. ■

Larry O'Brien is a technology consultant, analyst and writer. Read his blog at www.knowing.net.

been saying for years that extreme localization of Web content will become an umpteen-illion-dollar-a-year business in the future. But right now, resources like Google Local and Yelp.com are still learning to crawl.

—Alex Handy

SIX YEARS AFTER the famous Agile Manifesto was published, the iterative approach to writing software is essentially a mainstream idea. I was struck by this while reporting this issue's story on best practices for application life-cycle management. Most of the analysts, consultants and ALM tool makers I talked to didn't use the word agile, but again and again, they offered advice that was closely aligned with agile principles. They talked about effective collaboration with the business stakeholder, the importance of making needed changes quickly, and delivering software faster and testing earlier in the cycle, plus the notion that the ALM process is most likely to break down around people, not tools. With its "Individuals and interactions over process and tools" and "Working software over comprehensive documentation," the February 2001 Agile Manifesto put forth some radical ideas. Today those ideas are well understood—if not always well practiced.

—Jennifer deJong

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Collaboration Consolidation

The whole world is collaborating, it seems. Most any new product in software development today must have collaboration features built in. Eclipse, NetBeans and JBuilder all have greatly increased collaboration features in recent releases. And Visual Studio, of course, after a long stretch of incremental upgrades, suddenly gave birth to itself as whole new animal: the Team System (VSTS) that is built on a new collaboration platform into which discrete tools plug in. Products that don't have collaboration features per se generally have hooks or an API that can attach to a collaborative package.

It's easy to assume that this newfound group orientation that developers have suddenly begun to evince is a function of the Web and the ability to unite far-flung teams, but this view severely understates the greater group impulse.

Consider, for example, the recent practices you might find at even a small shop where all the programmers work under one roof: pair programming and code reviews. That's the kind of funky, touchy-feely thing that 10 years ago would have induced the lone, star, cowboy programmer at the shop to storm off in a huff mumbling about how he wouldn't have others comment on his code, much less

whisper suggested names of variables as he hunched over vi.

These new practices, together with the factors at play in offshoring, make it seem inevitable that wide-ranging and integrated collaborative platforms will be part of our future. I predict even more changes are coming. One trend, for example, is the move toward greater transparency in coding and building. This transparency might lead your cubicle mate to point out, or even call out loudly, "Andrew, you broke the build again!"

The key word here is future. Despite the trend, the number of sites using comprehensive collaborative solutions for software development is actually quite small. The two largest independent vendors of such platforms—CollabNet and SourceForge—collectively have approximately 400 installations. (Per CollabNet CEO Bill Portelli, SourceForge is found at slightly more than half these installations, but typically at smaller sites, while CollabNet has the remainder, mostly in larger enterprises.) While the business is growing, I was surprised that, overall, it remains so small. A point of comparison is the ubiquity of content management

systems (CMS) for Web sites: It's hard today to find companies that *don't use* a CMS to run to run their Web presence.

In late April, VA Linux, the owner of SourceForge, sold its collaboration platform, called SourceForge Enterprise Edition, to CollabNet. The two platforms will continue along separate tracks for the next year or so, each gaining features from

the other. Thereafter, you have to presume, some kind of integration will occur. The sale was prompted by SourceForge's desire to focus on its popular Web sites (SourceForge, Slashdot, ThinkGeek and others).

CollabNet, in contrast, is truly a tools company—its most famous product being Subversion, the widely used SCM product. So the sale makes sense. And since the trend points toward greater collaboration, CollabNet stands to make out well.

Its competitors are a motley crew. In pure Windows shops, of course, Microsoft's VSTS is the dominant presence and not currently suitable for displacement. (Any installation of VSTS would represent a recent investment, so swapping it for a new platform would be a difficult sale.) The other major commer-

cial competitor is IBM Rational. Big Blue has no direct competing product, but it does have several enterprise-scale point solutions that, with enough consultants, can be fashioned into a collaborative development platform.

However, neither of these vendors compares with the 800-pound gorilla, that nemesis of tool vendors and IT departments alike: the homegrown product. Says Portelli: "Homegrown is our biggest rival." I have heard the same observation from vendors of SCM tools, defect trackers (especially!) and even rules engines.

I'll avoid a long overdue rant on the folly of writing your own enterprise development tools—despite my conviction that this is a practice that is insufficiently condemned by pundits and analysts. Instead, let me point out that for collaboration platforms, you can see for yourself the benefits of either of the two leading solutions—at no cost. CollabNet makes completely free versions of both products available for small development teams: SourceForge Enterprise Edition (up to 15 users, Windows and Linux, at www.sf.net/powerbar/sfee) and CollabNet (up to 15 users, Linux only, at downloads.open.collab.net/cee15.html). Either will demonstrate the benefits of an integrated commercial collaborative platform. ■

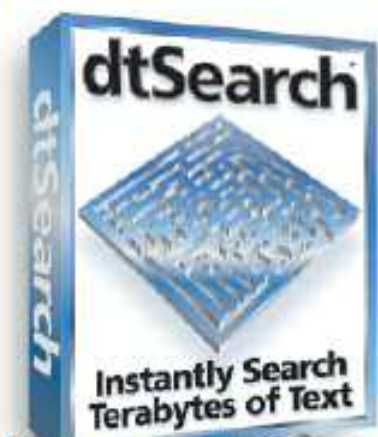
Andrew Binstock is the principal analyst at Pacific Data Works. Read his blog at binstock.blogspot.com.

Integration Watch



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Seed Money's Back in the Field

Back in years 2BBB and 1BBB (Before Bubble Burst), software entrepreneurs could raise capital on a smile and a business plan. They didn't actually have to have produced anything, or shown any kind of success. They simply announced they were a dot-com, and the checkbooks opened.

Of course, we know how that played out. Let's take a moment here to recall some of our fallen dot-comrades: pets.com (and that annoying sock puppet, now part of petsmart); gesundheit.com (which shuttered its Web site and its San Francisco storefront but still seems to live online—in its native German); toysmart.com (which wasn't so); and boo.com (which wanted to sell fashion wear over the Internet but instead was caught in pre-broadband user experience hell; the site is now owned by a travel reservation company).

Many startups of this type took millions and millions of dollars from venture capitalists and other investors enamored with the idea of becoming the biggest thing on this new Internet. Many suffered total losses. So, in the intervening years, VC companies have rebalanced their portfolios and reset their expectations about ROI. They also have laid down new rules for what companies seeking money must bring to the table. In short: Keep the smile and business plan, and show them something tangible.

"Most entrepreneurs today won't get a five-million-dollar series A check to ramp up and build a huge company. Now we expect you've done something before you even come to us." Those are the words of Bill Reichert, managing director of

Garage Technology Ventures in Palo Alto, Calif., a company focusing on seed- and early-stage opportunities.

There has been a nice re-emergence of entrepreneurship in the technology space, along with early-stage investing, according to Reichert. It's the seed money that's been slow to come back. "The more mature, larger funds aren't inter-

Industry Watch



David Rubinstein

ested in nurturing small companies with less capital over longer periods of time," he maintained.

Venture capital—the earliest stages of investment—was doled out to the tune of US\$28 billion in 2006. Private equity—the larger investment houses—staked businesses to 10 times that much, Reichert said, as they looked for man-

agement buyouts and public-to-private moves. Even though statistics might indicate there is less money being invested, Reichert claimed there is plenty of money; the difficulty comes in finding credible investments that will provide the type of returns investors are looking for.

Reichert's company requires that anyone coming to them for money be "lean, scrappy and capital-efficient," he said. "The thing that kills most companies is running out of money. Companies assume that when they run out, they'll get more. That's the premise on which much VC has been based."

Noting that the infrastructure for creating applications has really been built out over the past 10 years or so, Reichert wants to see something an entrepreneur has built on his own nickel, working nights and weekends to get it done. "It's better to design your company without VC," he noted. "You can always ask for it

after you get some traction and success."

So, Reichert was asked, what do the new dot-coms look like? What types of companies is Garage investing in?

First, he said, are companies that are located nearby. Regionally, opportunities differ. Denver, for example, is strong in storage systems and in the telecom infrastructure. Seattle, on the other hand, has a much more developed software infrastructure.

One company in which Garage has invested, said Reichert, is cFares, a travel search site. "The big question: 'Why does the world need another travel site, when there's already Expedia, kayak and others doing metasearch?'"

This company's principals "understand how seats and fares work," Reichert said. "Their secret sauce is that they've negotiated inventory outside the Global Distribution System, which retail sites cannot offer." Travel, he noted, is the biggest economic sector on the Internet. As a company, cFares "faced death multiple times, but now they're growing extremely nicely."

Another investment is in a company called Vigilistics, which writes software for the dairy industry, making sure milk is tracked carefully so that sources of infection or contamination can be traced back to the farm at which the milk originated. They also do temperature control and batch failure identification. "It's a huge industry that's seemingly boring, off in a corner, but you know what?" Reichert asked. "Everyone drinks milk."

If today's entrepreneurs can use existing infrastructures to create innovative applications that make life easier, they'll be drinking champagne—just like their predecessors did. Only this time, they'll be drinking it on a more stable foundation. ■

David Rubinstein is editor-in-chief of SD Times.

BUSINESS BRIEFS

ORACLE BEEFS UP PLM WITH AGILE ACQUISITION

Oracle has offered to purchase product life-cycle management vendor **Agile Software** for US\$495 million, pledging to make the acquired technology the heart of Oracle's PLM strategy. The merger is expected to close in July and is subject to the usual regulatory and stockholder approvals, as well as other customary closing conditions. Oracle said that its existing Oracle PLM customers would continue to be supported and have the option of accessing the Agile product line, which includes the Agile 9 product record manager, the Agile e6 product design manager, Agile ProdiKa for packaged goods, Agile Advantage for smaller enterprises, and the Cimmetry line of collaborative product visualization tools. It also said that work would continue on the Oracle PIM Data Hub, with planned Agile PLM integration.

Microsoft has purchased an equity stake in **CareerBuilder.com**, the online job recruitment site. CareerBuilder is the exclusive job search engine for the MSN Careers channel, and the agreement extends until 2013. CareerBuilder will pay Microsoft US\$443 million for the exclusivity arrangement. CareerBuilder is owned by media giants **Gannett Co.**, **Tribune Co.** and **The McClatchy Company**. . . **TIBCO Software** has signed a definitive agreement to buy business intelligence software maker **Spotfire Inc.** for US\$195 million. The deal will help TIBCO provide real-time and event-driven intelligence from its SOA, business process management and business optimization solutions. Spotfire claims its Enterprise Analytics platform gives users the ability to ask and answer questions in an unconstrained way. "Today's front-line decision makers want not only unparalleled access to business-critical information, but also a broader, clearer view of how that data relates to processes," said Christopher Ahlberg, Spotfire's CEO, in a statement . . . Spring framework provider **Interface21** has secured US\$10 million in a first round of private equity funding from **Benchmark Capital**. Interface21 claims there are 3 million downloads of the widely used Java application framework . . . **Percussion Software** has spun off its collaboration division as a new company, **Axceler**, which will be managed as an independent company. Michael Alden, who has served as Percussion's president, will add the role of CEO when he takes the helm at Axceler. Barry Reynolds, one of the founders of Percussion Software in 1994, will continue in his role as CEO. Axceler offers a Lotus Notes/Domino administrative product, and a Notes-centric real-time data integration solution. ■

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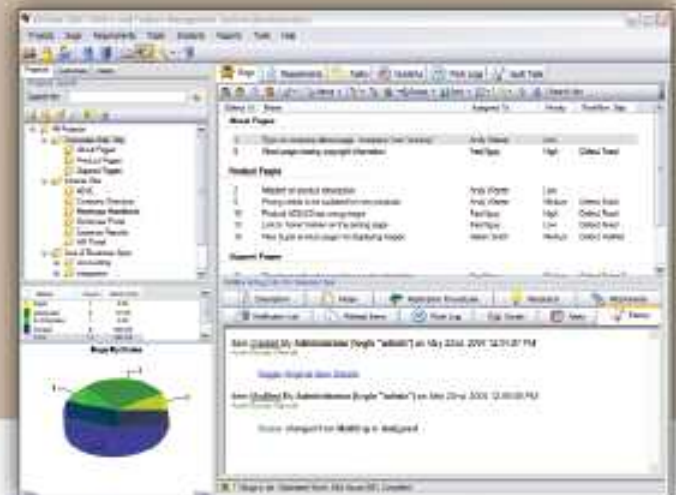
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